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FIFTEENTH ANNUAL MEETING.

THE ANNUAL ADDRESS.

Delivered Tuesday, November 8, 1887.

BY GEORGE M. STERNBERG, M.D.,

PRESIDENT.

GENTLEMEN: I am sure that all of the older members of the American Public Health Association feel, as I do, that our meeting this year has a special interest due to the locality in which we meet. We feel that the good city of Memphis is, in a manner, a protégé of our Association, because in her hour of distress she appealed to some of our most distinguished members for sanitary counsel and acted upon the advice given; and we recognize the fact that in more than one way our relations to this city are exceptional.

It was due to the yellow fever epidemic of 1878, in which Memphis was the chief sufferer, that steps were taken at our meeting of that year in the city of Richmond, to urge upon Congress the importance of a National Board of Health. Recognizing the fact that epidemics do not respect State boundary lines, and that an efficient sanitary service in times of emergency requires a liberal expenditure of money and unity of action on the part of sanitary officials, we urged the formation of a central health board, and for a time it seemed as if our well-meant plans would be crowned with success. Indeed, they were crowned with partial success, for all must recognize that in the early days of its existence the National Board of Health accomplished much good. It is unnecessary for me to refer to the various circumstances which conspired to paralyze the effective energy of this Board. Unhappily it is a thing of the past, and the hopes which we had founded upon this our bantling are but a memory of the past. But we should not be discouraged that our first effort has failed. A careful consideration of the circumstances which led to this failure may enable us to mature a better plan. Such a plan, endorsed by the judgment of the experienced sanitarians here assembled, and properly presented to our national legislators, could not fail to receive respectful attention.

One thing appears to me to be clearly demonstrated by the experience of the past, namely; that a central health board, to be efficient, must be attached to one of the departments of the government now in existence, so that it may be under the protection of a Cabinet officer. It would be useless to ask at the present time that the sanitary interests of the country may be represented by an additional Cabinet officer, a minister of public health, although there can be no doubt that the interests involved are sufficiently important to justify such an innovation. But we may at least demand that

the sanitary interests of the people of the United States shall receive the same consideration from the National government that is accorded the educational interests, the agricultural interests, etc. We may, at least, ask for a bureau of public health, with a Commissioner at its head, and with the necessary secretaries and clerical force to make it efficient; and attached to such a bureau should be a well-equipped laboratory in which expert bacteriologists, chemists, and sanitary engineers should be employed in the experimental investigation of unsettled sanitary problems: such as the natural history of disease germs: the best methods of destroying them; protective inoculations against infectious diseases; problems in sanitary engineering, such as the disposal of sewage, domestic sanitation, etc.; food adulterations; and a variety of other questions of equal importance, which will readily occur to you. I do not approve of the plan of having a central Board of Health composed of members located in various parts of the country. Such an organization is cumbersome, and it cannot be expected that a Board which is only assembled at long intervals, and of which the members are occupied by various pursuits which claim their time and best thought, will render the most efficient service. On the other hand, by diversity of opinions they may greatly embarrass their executive officer, who must necessarily be located in Washington. Nor, in my opinion, would a Board composed of officials at the head of various departments in Washington, such as the Surgeons-General of the Army, the Navy, and the Marine Hospital Service, as has been suggested, be much better. These officials are fully occupied with the duties pertaining to their office, or at least have not sufficient leisure to undertake the executive work of a central health bureau. I would, therefore, expect better results from the untrammelled action of a single Commissioner who would be responsible directly to the Cabinet officer to whose department his bureau was attached, and would necessarily be controlled by the law defining the nature of his duties. In this case it is evident that the good accomplished would depend largely upon the fitness of the man selected for the special duties entrusted to him, and that a political appointment in the first instance, or the removal of a suitable man for party reasons, would entirely defeat our object.

We may, however, ignore this possibility, and trust to the good judgment of the Chief Executive, and the growing public sentiment in favor of retaining efficient bureau officers without respect to party changes.

In connection with the bureau of public health, it would certainly be desirable to have an *Advisory Board of Health*, to which the Commissioner could refer questions for consideration, or which could advise him of new measures, or desirable changes in his regulations, which after full discussion commended themselves to the judgment of the Board. Such a Board should have no executive power, and the members should receive

no pay, beyond their actual expenses in attending the appointed meetings. I would suggest that such a Board should consist of the Surgeons-General of the Army, the Navy, and the Marine Hospital Service, and of the Presidents of State Boards of Health. One annual meeting in Washington would probably answer the purpose for which a Board would be constituted, except in case of an actual or threatened epidemic, when it might be convened by order of the President of the United States, at the suggestion of its President or of the Commissioner of Health.

I request your careful consideration of the plan here suggested, and if it meets your approval would urge the importance of taking such action at the present meeting as will insure its being properly brought before the Congress of the United States.

My reference, at the outset of my address, to the Richmond meeting of this Association, will recall to those of you who were fortunate enough to be present at that meeting, the very great interest which attached to the reading of reports upon the epidemic of that year; and especially will you recall the scene when our lamented colleague, Dr. Samuel M. Bemiss, of New Orleans, occupied the platform. Surrounded by diagrams showing the typographical features of the towns in the great Mississippi Valley, which had suffered most from the epidemic, and with tabular statements of population, mortality, etc., Dr. Bemiss, with the clearness and precision which characterized his delivery, passed in review the terrible record of the devastating pestilence. His genial and rugged face, aglow with humanitarian zeal, and an intelligent appreciation of the sanitary lessons conveyed by the stern facts which he presented to us, made an impression upon my mind, which will not soon be effaced. Alas, that he is not here with us to congratulate the good citizens of Memphis upon the favorable change which has occurred in their sanitary surroundings since the date of which we are speaking.

Sanitarians recognize the fact that epidemics are often blessings in disguise, just as great fires may be in badly built cities. Certainly not a blessing for those who suffer directly from the scourge; but the traveller who sees broad and well-paved streets, substantial and well-ventilated dwellings, and a healthy-looking population, where formerly narrow, filthy streets, and crowded tenement houses occupied the ground, may be excused for looking upon the conflagration which cleared the way for such improvements as a blessing. So, too, sanitarians, recognizing the fact that in many instances nothing short of an epidemic will arouse the people to take action with reference to sanitary improvements, cannot fail to see that the benefits which result from an epidemic of cholera, or of yellow fever, in the long run, may more than compensate for the distress and loss of life which attend them. A cholera epidemic which decimates the population of a town without sewers or proper water supply, will prove a blessing in the end if it leads to the introduction of an ample supply of pure water and of a system of sewerage by which the mortality from typhoid fever and other endemic diseases is greatly reduced. But this mode of obtaining sanitary improvements is an expensive one, and rather hard on the victims of the epidemic.

The members of this Association, therefore, actuated by a humanitarian spirit, desire to secure these benefits

for every town in this broad land if possible, in advance of the scourge which is sure to come some day, if the warnings and the lessons of past experience do not suffice to arouse the inhabitants of insatiable towns to a sense of the risks they run. It is a remarkable fact that in matters of this kind individuals and corporations are slow to profit by the experience of others, and that it is commonly only when the fatal results of neglect are brought under their immediate observation, that they are ready to apply the remedy, which is necessarily more or less expensive. We all remember how promptly the people of Memphis responded when the epidemic stimulus was applied, and we have heard much of the sanitary improvements which have been made in this city since the memorable year 1878. Many of us are here for the first time, and, as I have said, this meeting possesses special interest for us, because it enables us to see for ourselves what has been done and what remains to be done, in order to put Memphis in a state of defence in the event of another yellow fever epidemic in the Mississippi valley.

Do not allow yourselves to fall into a state of inaction and false security, because, for several years our foe has been kept at bay. Although it is now evident that yellow fever is not endemic in any portion of our land, and we have learned by recent experience that by proper measures it is possible to exclude it for a series of years even from the city of New Orleans, yet there are so many possibilities of its introduction, in spite of the vigilance of those who have charge of the gateway of the Mississippi Valley, that it would be folly to neglect those local measures of sanitation which remove the vulnerability of cities in the presence of the germs of pestilential diseases. Shutting the door is of prime importance, and while the keys are in the hands of our energetic and able colleague, Dr. Holt, we may feel comparatively safe. But the efficient President of the Louisiana State Board of Health cannot guarantee that all avenues of approach are securely guarded, inasmuch as some of these avenues are quite beyond his control. This is exemplified by the Biloxi epidemic of 1886. Local outbreaks such as that at Biloxi, and the epidemic at Key West, and at Tampa during the present year, show that the conditions upon our Gulf coast are no less favorable to the prevalence of yellow fever than they were in former years, and that our immunity depends solely upon the exclusion of an exotic germ. Unfortunately, also, the Biloxi epidemic illustrates the very greatest liability of physicians to fall into error with reference to the diagnosis when yellow fever unexpectedly makes its appearance at a place outside of its habitual range. History repeats itself in this particular. The early cases in an epidemic, which are often mild, are pronounced to be malarial fever, and this diagnosis is often sustained by those who have committed themselves to it, when no reasonable doubt remains in the minds of unprejudiced physicians as to the nature of the malady.

The question whether it is practicable to make a city which lies within the area subject to invasion, proof against epidemics of yellow fever and cholera is one of very great importance. At the International Sanitary Conference of Rome, the delegates from England and from India opposed all quarantine restrictions as unnecessary, and pointed to the fact that for years there

has been constant and free communication between cholera-infected ports in India and the seaport cities of England, but that cholera has not effected a lodgement in that country. Dr. Thorne Thorne, of the Local Government Board, a delegate to the Conference, ascribed this immunity to the sanitary improvements which have been carried out in England during the past ten or twelve years. He stated that during the period included between the years 1875 and 1884, an amount exceeding six and one-quarter millions sterling per annum had been expended in England "under private and public Acts mainly of a sanitary character." Dr. Thorne Thorne, in his report of the proceedings of the Conference referred to, says:

"Lastly, I would note that I took occasion to explain to the technical Commission, that expenditures such as I have referred to, are, with only very trivial exceptions, voluntarily incurred in the interests of public health.

"I then went on to show, in connection with this expenditure, that the average annual mortality for England and Wales was now only 19, as opposed to 22 per thousand in the decennial period 1861-70, and this notwithstanding the increase in population of some five millions; and taking the continued fever mortality of this country as that which, in point of causation, most nearly resembled cholera, I point out that whereas in the five years 1865-69, this mortality was at the rate of 934 per million living, it had steadily fallen to 428 per million during the period 1880-82, and that it was now only 307 per million."

In a later communication published in the *Practitioner* for October, 1887, Dr. Thorne Thorne gives fuller details of the English system of protection against cholera as follows: "Having deliberately abandoned the system of quarantine, we began, many years ago, to organize the system of medical inspection with isolation. The medical inspection comes first into operation on our coasts. The customs officers board the vessel coming into our ports, and they at once communicate to the sanitary authority the occurrence of any case of cholera, choleraic diarrhoea, or suspected cholera. A vessel so affected is detained until the medical officer of health has examined every member of the crew and passengers. Those actually sick with cholera or choleraic diarrhoea are at once removed to the port sanitary hospital, and any person certified to be suffering from any illness which that officer suspects may prove to be the cholera, is detained for a true period of observation, not exceeding two days. The medical inspection is thus followed by isolation of the sick. Unlike a quarantine system, this process does not interfere with the healthy, or expose them to risk by herding them together with the sick, but the names of the healthy, and the places of their destination are taken down, and the medical officers of health of the districts in question are informed of the impending arrivals. This part of our system has been named our first line of defence, but it would be of little value if we stopped there. Our main trust is in the promotion of such local sanitary administration in every part of the country as shall rid us of the conditions under which alone cholera can spread. In periods of emergency, as during the past three years, a special medical survey of such districts as are most exposed to risk is organized under the supervision of the medical officer

of the Local Government Board, and, where needed, the sanitary authorities are urged to action. Important as have been the results of the recent survey, they would go for little, were it not for the steadily maintained work of sanitary authorities and their officers throughout the kingdom; and we who have been taunted abroad for opposing quarantine because its restrictions touched our commercial interests and our pockets, may justly feel proud that in England and Wales alone, the people have, during the past ten years, of their own accord, and apart from government dictation, spent by way of loan or in current expenditure, over eighty millions sterling, for purposes mainly of a sanitary character. And we may fairly ask whether any corresponding expenditure has in other countries given evidence of real faith in a quarantine system."

Without denying the value of the sanitary improvements which have been carried out in England, and the possibility that her immunity from cholera is largely due to them, the delegates from more exposed countries, such as France and Italy, demanded a quarantine station on the Suez Canal, and pointed out the fact that their seaport cities were not in such a sanitary condition that they could hope to escape the ravages of the pestilence in case of its introduction, and that to place them in such a state of defence would require time and the expenditure of large sums of money. It was noticeable that those countries, such as Turkey, Egypt, and Spain, where sanitary improvements have made the least progress, were the most exacting with reference to quarantine restrictions. They evidently looked upon these as their only hope, and were advocates of the old-fashioned time quarantine, which, as carried out in these countries, has often been attended with barbarities which are intolerable for civilized nations. Self-preservation is, indeed, the first law of nature, but it is barbarous to sacrifice the life of another to save our own, and in guarding the lives of a community, we are bound to show due consideration for the health and comfort of those who are believed to be the possible bearers of disease germs.

Recognizing this humane principle a majority of the delegates to the Sanitary Conference of Rome were anxious to effect a compromise between the old-fashioned time quarantine and the English practice, which they could not rely upon for the countries of Southern Europe. It was believed that such a compromise was practicable, and that the plan agreed to by a majority of the delegates present was more reliable than a simple quarantine of detention. I must refer you to the published transactions for the details of this plan; but, in brief, it consisted of a sanitary supervision of ships at the port of departure, when this was an infected port, or in communication with an infected locality; in the sanitary supervision of ship and passengers while in transit by a properly qualified physician upon all passenger ships; and in such detention at the port of arrival as might be necessary for the disinfection of the ship, the personal effects of passengers, etc. If one or more cases of cholera should appear on board during the voyage, they were to be isolated and rigid measures of disinfection carried out, and the action of the health authorities at the port of arrival was to depend largely upon how effectively this had been done. In short, the treatment of the vessel and its passengers was not to be

determined in advance by arbitrary rules, but was to be governed by an intelligent consideration, by an expert, of all the circumstances relating to the sanitary history of the ship from the date of its departure from the infected port. This rational quarantine service, which is far less burdensome to the commerce of a country than the arbitrary time quarantine of former days, has proved itself to be also more effectual in accomplishing the end in view. This is amply proved by recent experience in our own country, where, to a large extent, the principles indicated control the action of the health officers of our principal seaports. Look at the city of New Orleans, where epidemics of yellow fever were formerly so frequent as to lead to the belief that the disease was endemic, and a necessary evil appertaining to the situation of the Crescent City. Happily, under an efficient quarantine service she has now a record of seven years' exemption from the dreaded pestilence.

It is, perhaps, too soon to speak with confidence with reference to the action taken by the sanitary officials of the port of New York upon the recent arrival of two cholera-infected vessels from the Mediterranean, but we have good reason to hope that the measures taken will prove sufficient, and that this pestilential disease, which has for several years been threatening us from a distance, has not effected a lodgement upon our shores.

Whether it would be practicable to put our seaports in such a state of sanitary defence that it would be safe to open the door and defy the foe is extremely doubtful. I have never believed that yellow fever was excluded from New Orleans, in 1862 and 1863, by the sanitary regulations enforced by General Butler, as has been claimed. The exemption from this disease enjoyed by the unacclimated soldiers of the North, who filled the hospitals in that city at the time mentioned, was due, in my opinion, to the absence of commerce during the military occupation of the city and the rigid enforcement of quarantine restrictions.

But I do believe that this and other cities similarly located can be preserved from such devastating epidemics as have too often occurred in the past, and that by the carrying out of needed sanitary improvements, and the constant supervision of expert sanitary officials supported by an enlightened public sentiment and sufficient appropriations, the ravages of pestilential diseases may be restricted within very narrow limits.

As regards cholera, the system of local defence is even simpler than in the case of yellow fever. Ample evidence demonstrates that the epidemic extension of this disease depends largely, if not exclusively, upon the water supply. Where this is subject to contamination by the discharges of the sick, there cholera is liable to become epidemic. On the other hand, cities like Rome, in Italy, which have an ample supply of pure water, drawn from a source not liable to be contaminated, seem to be cholera-proof, notwithstanding the filth and squalor in which a considerable portion of the population live. The same thing is seen in Naples, which, in 1884, suffered terribly, but which, since the completion of its new system of water-works in 1885, has enjoyed a comparative immunity, notwithstanding the fact that cholera still prevails in Italy, and that we have evidence of its presence in a malignant form in the city referred to. When I was in Naples in 1885, the Mayor of the city invited a number of the delegates to the Sanitary Con-

ference to the municipal palace, for the purpose of conferring with them in reference to projected sanitary improvements, and especially with reference to the best system of sewerage for the city, which, up to the present time, remains destitute of sewers, and which, I may add, is a noted stronghold of typhoid fever. In the course of the conversation I suggested to the Mayor Colonel Waring's American system, which has been tested with such favorable results in this city. My recommendation was sustained by the distinguished German bacteriologist, Dr. Robert Koch, who was one of the delegates present. I may remark that I have recently received a letter from Dr. Koch asking me to give him full particulars with reference to the details of this system as carried out in the city of Memphis.

I am not willing to leave the subject of quarantine, to which I have briefly referred, without placing myself upon record with reference to a matter in connection with it, which I consider one of the greatest importance. The practice which has come down to us from former times, when questions relating to abstract justice and individual rights had but little consideration in face of a danger to the community, of taxing commerce for the support of quarantine establishments, I consider one that is wrong in principle and unjust to those who are required to bear the burden. It seems to me to be evident that the people protected should pay the cost of such protection, and that quarantine establishments should be supported at the expense of the National Government, or of the States in which our seaports are located, and not by a tax upon the shipping entering these ports. I am not so much concerned, however, with the unjust tax upon ship-owners as with the gross injustice to passengers, practised at many ports in various parts of the world, when they are so unfortunate as to be detained at a quarantine station. Humanity demands that a sick person who is detained for the protection of a community should receive the best possible care, and justice requires that both sick and well, while detained at a quarantine station, should be well fed and well lodged without expense to themselves. Moreover, at a quarantine establishment which is supported by a tax upon ships and upon the passengers detained, an unscrupulous official may add to the hardships of passengers, the barbarity of an unnecessary detention from a venal motive. I trust that such things do not happen in our country; but to show how unjust the principles of taxing the passenger for his support while under detention in quarantine is, I will mention a circumstance which recently fell under my own observation:

When I left Brazil, in the month of August last, smallpox was epidemic both in Rio de Janeiro and at Para. Our ship touched at Para and five days later at Barbadoes. A passenger for this port was not allowed to land, because of the prevalence of smallpox in Brazil. Proceeding to St. Thomas, less than two days' sail from Barbadoes, our passenger was again refused permission to land, except to go to the quarantine station for a certain number of days. This was all right; but the conditions upon which he would be received seemed to me to be all wrong. Either he himself or the ship must guarantee the payment of the quarantine fees, which would be \$3 a day for his board and \$5 a day to the quarantine physician if he were alone. If others were at the station at the same time, this fee would be divided

between them. One can easily imagine what a hardship such a tax would be for a person of limited means, who had only provided himself with funds for the journey he had undertaken. The agent of the ship refused to take any responsibility, and our passenger had no resource but to submit to the imposition or to come to New York, paying his passage to that port.

As another illustration of the evils arising from the present system of supporting quarantine establishments, I will mention a circumstance which occurred upon our arrival at the port of New York. With the Deputy Health Officer who boarded our ship came a man with a jug. I was informed by one of the officers of the ship that he was to disinfect the vessel. Being somewhat curious to know the method of disinfection employed, I asked the ship's surgeon to go with me to inspect, when, after a detention of less than one hour, we had started from the quarantine station for our wharf. We found that the man with the jug had lowered a bucket by means of a rope through one of the hatches between decks. Upon pulling up this bucket, I found that it contained two or three pounds of some powder which had been wet, probably with an acid solution, and which gave off an odor of chlorine. No doubt, when first lowered between decks, there had been a considerable evolution of chlorine, but in the vast space to be disinfected it was so diluted that, at the end of an hour, I did not detect the odor of chlorine gas when I lifted the hatch, and it was only by approaching my nose to the bucket that I was able to ascertain what disinfectant had been used. The most curious part of the story is that I was informed that the bucket had been lowered between decks to disinfect a quantity of hides which were stored in the hold. What was the object of this "disinfection"? Evidently not to disinfect, for no one at the present day would think of maintaining that the hides in the hold had been disinfected by the procedure of the man with the jug.

The only object that I can conceive of depends upon the fact that there is a fee for disinfecting, which must be paid by the agents of the ship; at least I was so informed by one of the officers of the ship.

Gentlemen, we cannot control the action of sanitary authorities abroad, and, if we are ever so unfortunate as to be thrown in a lazaretto in one of those countries where the rights of the individual are counted as nothing, God pity us, for the fact that we are American citizens will be of no avail. But we can at least correct abuses, if such exist, at our own seaports, and set an example to other nations of an enlightened policy, which will not only redound to our credit, but will directly benefit our languishing commerce.

The most enlightened nations of Europe recognize the importance of a uniform system of quarantine administration, based upon past experience and recent progress in sanitary science, and this has been one of the principal objects in view in the assembling of expert delegates from the various countries interested for international sanitary conferences.

The first International Conference was that of Paris, in 1852. A second Sanitary Conference assembled in the same country in 1859, for the purpose of revising and simplifying the conclusions adopted in 1852; the next Conference was that of Constantinople, in 1866, and this, like the last Conference assembled in Rome

in 1885 at the call of the Italian Government, followed immediately after an epidemic of cholera, and had special reference to the restriction of this disease. The Conference at Vienna followed in 1874, and that of Washington in 1881. The latter, following after our yellow fever epidemics of 1878 and 1879, had the special object in view of establishing an international system of notification of the appearance of epidemic disease in all parts of the civilized world, and of the sanitary condition of seaport cities, and especially of ships sailing from infected ports.

Unfortunately, all attempts to establish an international code of quarantine regulations have thus far failed, owing to the very diverse opinions held by the delegates from the several nations who have been assembled for this purpose, and to the conflicting interests of some of the great powers. While, as a nation, we have taken part in these sanitary conferences, and have advocated an enlightened and uniform policy of quarantine administration, and international notification of infectious diseases, we have as yet no uniformity in the quarantine regulations of our own seaport cities, and no central health bureau. Gentlemen, it is well for us to consider these matters, and to point out to our legislators the present unsatisfactory condition of affairs with reference to the subjects referred to.

(To be concluded.)

ORIGINAL ARTICLES.

INJURIES OF THE FÆTUS DURING LABOR.¹

BY THEOPHILUS PARVIN, M.D.,

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THOUGH injuries of the child during labor are not frequent, probably they are much less rare than commonly believed. In many instances they are not recognized immediately after delivery, and they may spontaneously disappear, and in some their consequences are attributed to erroneous causes. Some of these lesions may happen in spontaneous labor, and others in artificial, whether the interference be manual or instrumental. It is impossible to classify them according to their causes, and apparently the most satisfactory division is one resting upon the regions or parts affected. Hence, in the paper now presented, injuries to the fetus in labor will be divided into those involving the head and neck, those of the trunk, and, finally, those of the extremities.

Injuries of the head and neck.—Contused wounds of the scalp and of the face, and incised, punctured, and lacerated wounds of the former are met with. So far as contused wounds of the face are concerned, it usually happens that they follow difficult delivery with the forceps, especially if the instrument be a powerful compressor; so, too, these result if the blades are applied obliquely, or antero-posteriorly to the head instead of to its sides. But in most all cases the effects are trivial and soon disappear. Punctured and incised wounds of the scalp have been made by the obstetrician mistaking a caput succedaneum for

¹ Read before the Philadelphia County Medical Society, October 26, 1887.

the foetal sac. Tarnier mentions an instance of a wound thus inflicted leading to the death of the child from erysipelas a few days after birth. More extraordinary is a lacerated wound of the scalp made in the effort to apply forceps, the operator introducing one of the blades between the scalp and the cranial bones. An example of this terrible blunder is mentioned by Charpentier, and I have met with a similar case.

Sloughing of a portion of the foetal scalp has been observed following some cases of spontaneous labor.

Thus, Priestley¹ has reported a case of this kind, resulting in death eight days after delivery; the labor was protracted for forty-eight hours because of a narrowed pelvic outlet. Lizé,² of Mans, states that in the case of a multipara, forty years of age, the waters ruptured five days before the birth of her child, which presented by the vertex, but occupied an occipito-sacral position. Five days after delivery, a slough involving almost the entire extent of the occipital bone appeared; three days subsequently it became detached and the child recovered. Bouchut³ quotes from Lorain a case of gangrene of the scalp in a newborn child occurring in the service of Moreau at the Maternity. The mother was a primipara, and the labor lasted forty-eight hours, terminating spontaneously; the child died on the nineteenth day. Dr. Goodell informs me of a case in which an oblique application of the forceps was made—one blade being in relation with the right frontal bone, and the other with the left occipital—and the right anterior portion of the head was so bruised that sloughing occurred a few days subsequent to birth; after the detachment of the slough a fatal hemorrhage occurred.

Depressions and fractures of the cranial bones, separation of their union to each other, fractures of the bones of the face, as well as disjunction of their articulations and joints, have been observed more or less frequently in cases of difficult labor, manual or instrumental—some of them, indeed, in spontaneous labor.

In regard to depressions of the bones of the foetal skull, some obstetricians have asserted that they are always accompanied by fractures. That was the opinion of Danyau, of Lachapelle, and of Schröder. But the following case,⁴ given by Matthews Duncan, seems to strengthen the view held by most obstetricians, that such depressions may occur without the bone involved being broken. The case was one in which persistent digital impression was produced on the right parietal bone of a fetus during birth, by the finger of the accoucheur, who was endeavoring to cause rotation. The result was slight, short, but frequently repeated epileptiform seizures, which lasted some time after the digital impression had disappeared, and were finally replaced by choreic movements. Now it seems hardly probable that the pressure of the finger produced a fracture of the bone. Dugès⁵ has given an instance of great depres-

sion in one of the parietal bones, not followed by any serious consequences. The child was delivered by the feet through a pelvis of which the conjugate was estimated at three inches and a quarter. Powerful traction upon the shoulders and upon the lower jaw was necessary to bring the head past the obstruction, and the parietal bone, which was in relation with the sacro-vertebral angle, presented a depression half an inch in depth and two inches in breadth. The infant was resuscitated with difficulty, then had convulsions, but in a few days was quite well, and in fifteen days the depression had entirely disappeared.

Minor depressions or indentations are sometimes seen, especially after the application of the forceps, and in rare instances such marks are permanent. But we must not be in haste to conclude that these indentations found upon the head of a newborn child are proofs of instrumental delivery, for Oslander¹ has stated that, having delivered a child by podalic version through a narrow pelvis, he found upon its head a depression into which the end of a forceps-blade accurately fitted; so that he himself would have concluded, had he ever seen a similar depression, that the delivery had not been spontaneous, but by the forceps.

Fractures of the foetal skull have been observed as the result of direct violence, as when a woman expels her child while she is standing, and it falls on the floor. Or, again, a woman,² near the close of the second stage of labor, the child's head being at the vulvar opening, threw herself out of the window, and several fractures of her limbs, as well as a fracture of the child's head, resulted. But apart from these cases in which the injury has resulted from direct violence, and those observed in delivery, whether spontaneous, manual, or instrumental, in narrowed pelves, which will be referred to in a moment, fracture may occur when the labor is in all respects perfectly normal, so far as duration and facility are concerned. Thus, Dr. Charles West³ has reported the case of an infant dying from convulsions nine days after birth, the labor having been an easy one and lasting but five hours; the mother had previously given birth to two living children, and these labors too had been normal. Yet upon an autopsy of the third child, a fracture of the right parietal bone, with effusion of blood between the cranium and dura mater, the effusion being more than half an inch thick and occupying the entire fossa of the bone, was discovered. He states in his report that fractures of the skull have been known to take place during easy labors, and wholly independent of any preternatural degree of ossification of the skull. Monteith⁴ mentions having attended a case of perfectly natural labor, yet the child had a fracture of the right parietal bone; there was a

¹ London Obstetrical Society's Transactions, vol. i.

² Annales de Gynécologie, 1875.

³ Traité Pratique des Maladies des Nouveau-Nés, etc.

⁴ British Medical Journal, October 18, 1873.

⁵ Quoted by Jacquemier, Manual des Accouchements, Paris, 1846.

¹ Given by Cieslewicz, Verletzungen des Fœtus durch den Geburtshelfer. Halle, 1870. Cieslewicz gives forty cases of fracture, fissure, contusion of nerves, laceration of muscles, separation of epiphyses, etc., occurring in labor; he also reports two of rupture of the longitudinal sinus.

² Quoted by Delore, Fractures du Fœtus, Dictionnaire Encyclopédique des Sciences Médicales.

³ Transactions of the London Medico-Chirurgical Society, 1845.

⁴ London Lancet, November 14, 1874.

marked depression in the middle of the bone, and the fracture extended to the sagittal suture on one side, and to the coronal on the other. It is quite apparent that a case such as either of these might give rise to medico-legal investigation, or to unjust censure of the obstetrician.

Coming down to fractures of the bones of the cranium or face, or rupture of joints involving the maxillary symphysis, or the cervical vertebræ, or fracture of a vertebra, for it is claimed that usually the body of one is broken rather than a separation between two vertebræ, as the consequence of great traction occurring in manual or in instrumental delivery, an important question arises as to the amount of force that may be safely used either with hand or instrument. In illustration of the great force which has been employed in forceps delivery without injury to mother or child, I quote the following from Dr. Peugnet.¹ He states:

"I was called to Mrs. K., a multipara, in labor with her third child. The first two were delivered by craniotomy. The vertex presenting, R. O. A., and impacted between the sacrum and the pubes, the conjugate diameter of the superior strait greatly contracted, I applied forceps, and had great difficulty in locking them. Dreading the laceration which might ensue in this case from side-to-side lever action, I concluded to rely upon direct and steady traction. My strength giving way, her husband held me round the waist, whilst the patient was held *in situ* on the dorsum by four women. In forty-five minutes I had the satisfaction of bringing the head down upon the perineum. The delivery was then speedily accomplished. Both mother and child, a girl, did well."

The least that can be said in regard to this case is, that the result was very remarkable, and it is doubtful whether the practice pursued could be repeated in any considerable series of similar cases without injury to both mother and child.

Delore,² after remarking that the foetal head may endure, without injury, a great compressing force if applied to a large surface, and if made by a regularly concave surface, as that of the blades of the forceps, states that from his experiments he found that a compressing force of two hundred and twenty pounds did not cause a fracture. But, on the other hand, if the blades slip, if the pressure is made upon a small surface, fracture follows the exercise of much less force. Further, a blunt, angular body, such as the sacro-vertebral angle, the spherical surface of which is described by a radius of three-fourths or one inch, produces a fracture with a force of forty-four pounds. As the force which is exerted in difficult labor is more than forty-four pounds, fracture results.

Nevertheless, these results are not in complete accord with those of Goodell,³ though, as will be seen, he is discussing the question of the amount of force of traction that may be safely used in a narrowed pelvis without injury to the neck of the child. Nevertheless, the subject of injury to the bones of the head is also involved, and in only one instance, I believe, does he mention fracture of one of the

cranial bones. He states that he has on several occasions delivered living children after throwing on their necks a weight of 130 pounds. He further says that, although exerting all the manual strength at his command, he has never seen the body part from the head; he mentions one instance in which there was not the slightest apparent injury to the neck though the sacral side of the head had been broken in. Further, in another case, the force of traction upon the child's head, combined with suprapubic pressure, amounted to 200 pounds. Stone⁴ has more recently reported a case of podalic version, and delivery by traction through a narrowed inlet, in which he put on the neck of the child all the force of which he was capable, using the pump-handle movements described by Goodell. The child was dead. There was no fracture of the bones of the head.

"The spine had parted in the upper dorsal region during the traction upon the trunk, which was necessary to cause the shoulders to come low enough to reach the arms. The cervical spine was not broken."

Delore's conclusion as to the amount of force followed, in pelvic narrowing, by fracture of the cranium of the foetus is erroneous, or such injury ought to have been observed in all the cases where a force even approaching 100 pounds were used.

Champetier's⁵ investigations as to the force that could be safely used in the delivery of the foetus, led him to the following conclusions, the first of which does not correspond with the results obtained by Goodell: First, there is danger of fracturing one of the parietal bones, whatever the method of extraction, if the total force employed reaches seventy-five to eighty-eight pounds, the infant being at term, forty-four to fifty pounds if it be premature. Second, the inferior maxillary of a child at term will bear, without rupture, a traction of fifty-five pounds. Third, the vertebral column of an infant at term was ruptured in three cases by a force of one hundred and ten pounds.

So far as objected that these results have been obtained by experiments upon dead children, and, therefore, they are not applicable to the force that may be exerted upon living ones, the answer of Matthews Duncan may be repeated. He, after consulting physiological and physical authorities, could say that a child living and one recently dead were the same as to tensile strength.

In this connection it is well to refer to the amount of traction which may be safely applied to the lower jaw of the foetus, as stated by Duncan⁶ from his own experiment. It will be observed that his results are not the same as those announced by Champetier. Duncan states: "It is now ascertained that a force of half a hundred weight (fifty-six pounds) may, at least in some cases, be applied by dragging the lower jaw of the foetus without producing any easily discovered injury of the parts." He further says that compound dislocation would be almost certainly

¹ Ohio Medical and Surgical Journal, 1878.

² *Op. cit.*

³ American Journal of Obstetrics, 1875.

⁴ Medical and Surgical Reporter, February, 1880.

⁵ Du passage de la tête fœtale a travers le détroit supérieur rétréci du bassin.

⁶ London Obstetrical Society's Transactions, vol. xx.

fatal, and in one of his experiments this injury was done by a weight of fifty-six pounds. Not only does Duncan's statement as to the force which the inferior maxillary will bear without injury differ from that of Champetier, but the difference is still greater from that given by Delore, who makes this eighty-eight pounds.

Fractures of the cranium usually involve the parietal bones, but they may also occur in the frontal; in one of the temporals, or in the occipital. Jacquemier first pointed out the separation between the squamous and the basilar portion of the occipital bone, to which some more recent writers¹ have directed attention without giving him just credit. He has also stated that he met with fracture of the occipital in that part of the bone above the protuberance.

Ruge,² referring to separation of the epiphyses between the squamous portion of the occipital bone and the articular part, states that Schröder is the only one who has recently drawn attention to it, and, notwithstanding its importance in regard to the life of the child, this lesion is not referred to in classic works as one of the immediate consequences of extraction. The lesion may also occur in a narrowed pelvis, though the presentation be cranial. In these cases there may be not only effusion of blood, but further compression by the squamous portion having its anterior inferior margin forced against the medulla.

On the other hand, severe injury of the frontal bone has been observed without serious consequences. Thus, Dugès³ saw a child recently delivered, and the left eye was almost completely outside the orbit, so great was the depression of the frontal bone, yet the infant did not have convulsions or any other grave symptoms. I have, however, seen protrusion of the eyeball in a newborn, following fracture of the frontal bone by Hodge's forceps, used in a case of tedious labor in a primipara, the delay being from an occipito-sacral position; the child lived for a week after birth. That an infant may survive very grave injuries in labor is proved by a case reported by Lamotte,⁴ in which a surgeon, in a case of shoulder presentation, had torn away the arm, and then performed craniotomy, evacuating a large amount of the cranial contents; yet the child was born alive.

Zweifel⁵ regards fissures and fractures of the cranial bones as only of clinical significance if a sinus be injured and consequent hemorrhage occurs. On the other hand, Delore⁶ asserts that all these fractures are grave, on the ground that they may be accompanied by contusions of the brain. Further, there may be hemorrhages between the bone and the periosteum, in the cavity of the arachnoid, or between the pia mater and the brain. If the solution of continuity be at the position of a sinus, there is frequently rupture of the vessel. He adds that in all

cases in which the head has undergone severe compression from dystocia, he believes hemorrhages occur. The significance of this last remark will be appreciated, especially when we consider the remote consequences upon the mental condition of the child, as urged more especially by some English observers.

Injuries to the bones of the face are usually of the inferior maxillary. This bone may be fractured, or separation of the mental symphysis may occur. Ruge mentions cases in which, in addition to injury of the bone, there were lesions of the soft parts—as, for example, tearing of the skin at the angle of the mouth, as well as the mucous membrane of the pharynx and rupture of the genioglossus. Yet if we fail to use traction upon the lower jaw in cases of difficult head-last labors, we miss what may prove an important means of delivery in some cases, and which may be of great value when other means fail. Some years ago, in a case of narrowing of the pelvic inlet, having failed to deliver with forceps, I performed podalic version, and sought to deliver by traction, while a consultant aided with suprapubic pressure. I am confident I did not use the force which some operators have safely employed under similar circumstances, yet the cervical vertebræ gave way; either by separation, or by fracture, and I found apparently nothing but the integument holding the head to the body. I then succeeded by traction upon the inferior maxilla, suprapubic pressure assisting in bringing the head into the pelvic cavity. That the head may be left in the uterus, the body being dragged away, is a fact proved by occasional instances in the history of obstetrics. In other cases the division has been made, not by rupture, but by cutting through the neck. An instance is reported⁷ in which the obstetrician failing to deliver the head in a case of shoulder presentation, after detaching the arm and bringing down the feet, performed decollation, and the head and the placenta remained in the uterus for forty days. Freund mentions a case in which the head was left in the uterus for ten years.

Probably the most remarkable case of multiple injuries to the face has been recorded by Petit.⁸ The face presented, rupture of the uterus occurred, and the woman died undelivered, though the forceps had been used. The autopsy of the child showed multiple separations of the bones of the face, and fractures.

Paralysis of one of the facial nerves has been observed most frequently, but not exclusively, after the use of the forceps. In a paper read before the American Gynecological Society in 1885, I have referred to eight cases of spontaneous facial hemiplegia, and also mention one case observed by Seeligmüller, in which the paralysis affected both sides of the face. But the disorder usually occurs from the use of the forceps, and is caused by the pressure of one of the blades at the stylomastoid foramen, or a little in front of the lobe of the ear. Landouzy, who has best described the affection, has remarked that in the infant the complete absence of the mastoid apophysis, and the slight development

¹ Thus Bednar, *Die Krankheiten der Neugeborenen und Säuglinge*, Wien, 1863, refers to it as a hitherto unobserved injury.

² *Bulletin de Thérapeutique*, from *Zeitschrift für Geburtshilfe und Frauenkrankheiten*, 1875.

³ Jacquemier, *op. cit.*

⁴ *Traité des Accouchements*, 1726.

⁵ *Lehrbuch der Geburtshilfe*.

⁶ *Op. cit.*

⁷ *Obstetric Gazette*, from *Archiv für Gynäkol.*, March, 1883.

⁸ *Annales de Gynécologie*, 1874.

of the auditory canal, favor the possibility of this compression of the facial nerve near its point of emergence. In six weeks, according to Parrot and Troisier, recovery usually takes place in paralysis of the facial caused by forceps. Many cases, however, are well in ten days. Nevertheless, while recovery is the rule, it should be remembered that in some the injury is permanent. Duchenne² refers to two patients, one fifteen years old, and the other five years and a half, in each of whom the paralysis continued.

It should also be observed that there may be facial paralysis in the newborn caused by protracted labor and intracranial hemorrhage. Injuries of the sterno-cleido-mastoid muscle have been observed by several. In reference to torticollis of obstetric origin, Stromeyer and Dieffenbach explained the affection as resulting from improper application of the forceps, the muscle being bruised or torn. Nevertheless, this explanation is rejected by Saint-Germain as not plausible. A very large proportion of infants that have wry-neck, are born with pelvic presentation, and it is asserted that in the traction exerted rupture of a greater or less number of the fibres of the muscles takes place, and a hæmatoma follows; finally, the contractions of the cicatricial tissue result in drawing the head into its unnatural position. One of the first references to tumors of the sterno-cleido-mastoid was made by Melchiori⁴ in 1862. He spoke of them as indurations of muscle, sometimes met with in young infants, and to which he found no reference in authors. He met with the disorder four times, and he described the affection as an indurated, plastic deposit; while he mentions temporary deformity of the neck, he does not speak of any case in which this was permanent. In referring to the etiology, he suggests that compression of the muscle or laceration of some of its fibres may take place during labor.

The next year both Dr. Wilks and Sir James Paget¹ met with cases of what they described as chronic induration of the sterno-cleido-mastoid. Another case of the affection was reported the same year by Harris, and thus the published cases in a few months were at least six, but no reference was made by any of the reporters to the previous observations of Melchiori. Bryant⁴ in 1863 reported two cases of thickening of the sterno-cleido-mastoid. One patient was four, the other eight weeks old when he saw them; in each instance the birth was with pelvic presentation. Probably in all the cases, or at least in a majority of them, the disease was hæmatoma. Nevertheless, Blachez⁵ regards these tumors as caused by an interstitial myositis in consequence of traction upon the muscle. He describes the tumor, observed in one of his patients, as elastic, almost painless, and the size of a pigeon's egg; it was situated in the right sterno-cleido-mastoid, and was not discovered until two or three weeks after birth, when the attention of the parents was called to it by the infant's keeping the head inclined to the right side.

Zweifel recognizes injuries of the sterno-mastoid muscle in labor as a cause of torticollis. Professor Albert,¹ of Vienna, referring to a child with torticollis, stated that the sterno-cleido-mastoid may become contracted during intrauterine life, or be injured during birth. In breech presentations, and in difficult forceps delivery a laceration of this muscle may occur, and be followed by inflammation and contraction. While such injury is more frequent after head-last labors, yet they are also met with in vertex presentations, and if the forceps have been used.

On October 2, 1861, a paper was presented to the London Obstetrical Society by Dr. Tyler Smith for Dr. W. J. Little, the title being "Upon the influence of abnormal parturition, difficult labors, premature birth, asphyxia neonatorum, on the mental and physical condition of the child, especially in relation to deformities."⁵ In this paper, which, by the way, mentions two cases of wry-neck, that he attributed to difficult labors, the author says:

"It is impossible to connect the persistent affections of the intellect, of volition, and of organic life, with the injury the several nervous centres suffered in some instances before the fœtus had reached the maternal pelvis, in others whilst in transit through it; and in a third set of cases, where the fœtus was exposed to neither of these kinds of injury, it suffered from asphyxia neonatorum, suspended animation, and its concomitant congestions, effusions, capillary apoplexies of the brain, medulla oblongata, and spinal cord."

Dr. Langdon Down, in discussing the obstetrical aspects of idiocy, stated that in a very large number of cases of idiocy the subjects were born after difficult labors, these being usually tedious, and he held that if a neurotic tendency was present the tedious labor and suspended animation might determine the catastrophe, where otherwise all might have gone fairly well.

The following note from one of Dr. Little's³ correspondents may be of some interest; it is in reference to a young man in regard to whom inquiry had been made by Dr. Little:

"I have again ascertained he was asphyxiated for two hours when born, and that he has always been a weak creature, very slow in mental development, with difficulty in speaking, trembling and shaky, unable to fix his attention on a book, and a bit of a punster."

The final statement, "a bit of a punster," is conclusive as to the intellectual feebleness of this unfortunate man!

These views are further strengthened by the statement of Dr. Arthur Mitchell⁴ that he believes there is a connection between difficult labor and idiocy.

Injuries of the trunk.—The chief lesions of the trunk are rupture of the connections between the dorsal vertebræ, or fracture of one of these, injuries to the abdominal wall by a badly directed blunt hook, effusion of blood in muscles, similar to those that have been referred to as occurring in the sterno-cleido-mastoid, retropleural hemorrhages along the spinal column in case rupture of this column occurs, hemorrhage in the abdominal or thoracic cavity, and

¹ See Nadaud, *Des Paralysies Obstétricales des Nouveaux-nés*.

² *Medical Times*, London, vol. ii., August 9, 1862.

³ *London Lancet*, 1863, vol. i. pages 11, 236, and 313.

⁴ *London Medical Times*.

⁵ *Gazette Hebdom.*, May 19, 1876.

¹ *Obstetric Gazette*, September, 1882.

² *Obstet. Society's Transactions*, vol. xviii.

³ *Obstetrical Transactions*, vol. iii.

⁴ *Medical Times*, 1862, 1863.

collections of blood beneath the capsule of the liver, or of the kidneys, and rupture of the sacro-iliac joint. Ruge has collected forty-four cases of injuries to the fœtus occurring in extraction after version, and twenty-nine of injuries in pelvic presentations; in the former there are three of rupture of the sacro-iliac joint. It is probable, as suggested by Zweifel, that some cases of ankylosis affecting this joint, of which the etiology is obscure, are to be attributed to injury in birth. Zillner¹ has reported a rupture of the sigmoid flexure occurring in labor.

Injuries of the arms.—In connection with these lesions those of the scapula and clavicle, which belong to the arms rather than to the trunk, will be considered. Delore states that fractures of the humerus are more frequent than all others; since they are usually readily cured, and as they are generally caused by *maladresse* they are rarely published. But he further says that this accident may occur in the hands of the most expert accoucheur if the pelvis be contracted. They most frequently occur in the disengagement of the arms after podalic version when extraction is necessary, and they may also happen in pelvic presentation, but usually, if we do not have to extract the child—that is, if the expulsion can be left solely to nature—the arms will not ascend, but remain applied to the chest. Smellie² states that he fractured the humerus in a case in which he turned and delivered by the feet, and this is the only one he gives, while he mentions three cases of fracture of the femur, two occurring in the practice of his assistants, and one in his own.

All obstetricians agree that in bringing down an ascended arm it is important no pressure be made until the internal angle of the elbow is reached, and that three or four fingers should be employed, and not one or two. Pajot regards it as important that the posterior arm should be liberated first. Küstner³ describes separation of the epiphysis of the head of the humerus from the diaphysis as one of the injuries of labor which may be overlooked, or falsely regarded as a luxation, fracture of the neck of the scapula, or injury to nerves. Fractures of the clavicle, separation from its sternal attachment, transverse fracture of the scapula, separation of the epiphysis of the neck of the scapula, injury of the acromion process, and dislocation of the humerus, have been observed.

Fracture of the clavicle is most frequently caused by pressing directly with one or two fingers in the

endeavor to bring the head through the pelvic inlet after podalic version, or in pelvic presentation. McClintock, in one of his annotations to the Sydenham Society's edition of "Smellie," observes, "Although Smellie gives no example of fracture of the child's clavicle during delivery by the pelvic extremities, yet, in my experience, it is a bone very apt to be broken by the manipulations of the accoucheur, more so even than the humerus; this may, perhaps, be explained by its greater degree of ossification."

Paralysis of the arm.—Sinkler recognizes hemiplegia as, in some cases, the consequence of injury at the time of birth, either from the forceps or from the pressure of a prolonged labor. Nadaud gives seven cases of paralysis of the arm attributed to the forceps; the first one of this injury reported is one of Smellie's. Jacquemier mentions an instance of paralysis of the deltoid following a long and difficult, but spontaneous, labor; the recovery was complete in fifteen or twenty days. He attributed the disorder to compression of the axillary nerve against the humerus at the point of its attachment to the deep face of the deltoid. Fasbender found a tumor, as large as a pigeon's egg, situated above the right clavicle, in an infant soon after delivery; the hæmatoma gradually disappeared, but at first there was paralysis caused by nerve compression. Delore suggests that paralysis may be caused by the rupture of a nerve trunk near its connection with the spinal cord. He states that this accident is not rare in the newborn or in young infants as a consequence of traumatism; it is followed by incurable paralysis, which is compatible with life if an upper member only is affected.

Disengagement of the extended arms in pelvic deliveries, traction upon the axilla in delayed delivery of the body in vertex presentation, the traction in some cases being with the blunt hook, in others with the finger, have resulted in paralysis of the arm. So, too, the same disability has followed a case in which the arm has protruded in the shoulder presentation, and delivery effected by podalic version.

Luxation of the humerus has, in some instances, been mistaken for obstetric paralysis. Further, it is important to distinguish between cerebral and traumatic paralysis. Duchenne⁴ gives an instance in which there were both cerebral and obstetric paralysis, the latter consequent upon a fracture of the ulna near the elbow.

Fractures of the femur may be spontaneous, or consequent upon artificial delivery. Meyer has recently⁵ reported two cases in which spontaneous fracture of the femur was observed; in one a single femur was broken, but in the other both femurs. In May, 1847, Dr. Vanderveer⁶ reported a case of such fracture in childbirth. But probably more fractures of the femur are to be attributed to the attempt to pull down a lower limb in pelvic presentation when the presenting part is already partially in the mother's pelvis, before pressing up that pre-

¹ Centralblatt für Gynäkol., 1885.

² Sydenham Society's edition of Smellie's Midwifery, vol. iii. pp. 296, 297. This great obstetrician, in the first volume, op. cit., remarks: "In laborious or preternatural cases, when considerable force hath been used in delivering the child, the whole body ought to be examined, and if there is any mark or contusion on the head it will disappear if anointed with pomatum, and gently rubbed off or chafed with the accoucheur's hand; if any limb is dislocated or broken, it ought to be reduced immediately; luxations, though they seldom happen, are more incident to the shoulder than to any other part, the humerus being easily dislocated, and as easily reduced. The bones of the arm and thigh are more subject to fracture than any other of the extremities; the first is easily cured, because the arm can be kept from being moved, but a fracture of the thigh-bone is a much more troublesome case, because over and above the difficulty of keeping the bones in a proper situation, the part is often necessarily moved in cleaning the child."

³ Ueber die Verletzungen der Extremitäten des Kindes.

⁴ See Nadaud, op. cit.

⁵ Archiv f. Gynäkol.

⁶ New York Medical Journal.

senting part, or from the use of the blunt hook. Delore's experiments show that with the untired finger traction to the amount of thirty-three pounds may be made upon the groin, and this cannot break the femur. If a force of one hundred and twenty pounds is employed upon the femur, fracture occurs; if the instrument be perpendicular to the bone, the latter gives way with a pressure of forty-four pounds. Again, the bone has been broken, or that which is equivalent, separation of the epiphysis been caused from traction upon the leg. A. R. Simpson mentions an instance in which, podalic version having been performed, the right lower limb was brought down, and traction made; subsequent examination showed that there were three such fractures.¹

Luxations of the femur consequent upon obstetric operations, according to Ruge, are exceedingly rare; upon 300 autopsies of newborn infants he did not find a single true dislocation of this bone. Küstner, in referring to luxations of the hip, speaks as follows:

"Göschel relates a case in which Langenbeck reduced such luxation after the subject, a girl, was thirteen years old, and mentions in this connection that Stromeyer had met with twenty cases. The only possible way in which this injury could occur would be by sudden and violent force drawing down the limb, and then dislocation upon the ilium might result. But the force must be great. I have suspended to the leg of a child, from six to ten minutes, a weight of from sixty-six to eighty-eight pounds, without any injury to the joint."

Complete paraplegia in connection with facial paralysis of the right side has been observed following a difficult labor in which the forceps was used. Examples of rupture of the spinal cord, in connection with rupture of a vertebra, have been observed, and, of course, paralysis of the lower limbs. It is remarkable that in two such cases the children lived for some hours. Paraplegia in the newborn is, as Nadaud states, usually an evidence of serious lesion of the cerebro-spinal organs, and the child dies after a short time.

I think the study of these cases of obstetric injuries, which might be greatly extended—for much more remains unsaid than has been said—ought, in the first place, to lead us to a larger charity for fellow practitioners, as many of the most serious injuries in childbirth may occur without the slightest blame necessarily attaching to the accoucheur. Another lesson is that an important distinction should be made, as urged by Ruge, between podalic version and extraction, never resorting to the latter, unless absolutely necessary, after the performance of the former, and thereby many of the obstetric lesions of the foetus may be avoided. Very wisely, Lamotte says, referring to the injuries that may be done in labor to the child by the accoucheur, "The hand improperly used is more dangerous than any instrument."

Again, the question arises as to the safest manual means for the delivery of the head in head-last labors. In Cieslewicz's collection of cases of injuries of the foetus in labor, there are several in which very serious consequences resulted from employing the

Prague method. One of these, reported by Gussierow, showed, upon post-mortem examination, rupture of the vertebrae and most of the soft parts of the neck so complete that the head was attached to the trunk only by the skin and the vertebral arteries. Ruge, rejecting both the Prague and the Vienna method, prefers elevation of the occiput, bringing the face down, and carefully conducted expression, as least liable to injure the foetus.

Another question of practical interest is the best method of delivery in pelvic presentations, when interference is necessary. Should we follow that employed by Goodell, in all cases bringing down a foot as soon as possible, and thus be commander of the situation, in case necessity for extraction arises? Must we use the blunt hook? Is the application of the forceps to the breech to be generally advised?

Again, while treatment of fractures of an upper limb, or of the clavicle, is said to present usually no great difficulty, can a similar statement be made as to fracture of the femur? What method of treatment is best? In depressed fractures of the skull, is it not probable that some lives might be saved by the use of the trephine? and in other cases, not followed by death, perfect mental integrity insured?

Finally, many questions as to the diagnosis of obstetric paralyses of the newborn arise, and, also, as to when and what treatment should be employed.

TWO CASES OF ABDOMINAL SECTION FOR TRAUMATISM, AND TWO CASES OF STAB-WOUND OF THE ABDOMEN WITH PROTRUSION OF OMENTUM.

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The following cases came under my care during the past summer and the summer of 1886 while in charge of the wards of Drs. T. G. Morton and William Hunt, at the Pennsylvania Hospital.

CASE I. Stab-wound of liver; abdominal section; death.—George K., aged thirty-two years, was admitted into the hospital, June 28, 1887, with a stab-wound of the abdomen. He was intemperate in his habits and had been on a spree for the past four days. He was stabbed with a penknife during a fight, a short time before his admission to the hospital.

Upon admission the patient was suffering from shock and was partly intoxicated; his temperature was 98° and his pulse 100 and weak. The wound was an inch and a quarter in length, parallel with and one inch below the border of the ribs, and one to one and a half inches to the right of the median line; he had some fulness and tenderness of the abdomen. No visceral injury could be detected by the finger passed through the wound into the abdominal cavity, but as he had lost such a large quantity of blood, his shirt and pants being saturated with it, and from the position of the wound it was believed that his liver had been injured, I, therefore, thought it best to open his abdomen.

The operation was performed three and a half

¹ Edinburgh Medical Journal, 1880.

hours after the injury. After the patient was etherized the wound was extended to the median line and downward, making an incision five inches in length. A considerable quantity of fluid blood and a few small clots were removed from the abdominal cavity; the right lobe of the liver was found to be wounded, the cut being three-quarters of an inch in length and one-half inch in depth, situated over the gall-bladder about an inch and a half above the lower border of the liver. The wound was touched with the Paquelin cautery to control the hemorrhage and the abdominal cavity was thoroughly washed out with warm water passed through a blunt trocar and tube attached to an irrigating apparatus and the cavity was then sponged dry. The abdominal wound was brought together with silk sutures and an iodoform and bichloride gauze dressing applied. The time occupied by the operation was about one hour and fifteen minutes.

Shortly after the operation his pulse was 120 and his temperature 97°, but the latter rose in a few hours to 100°.

Before the operation was completed his skin became moist, and some hours later he suffered from a profuse cold sweat, his pulse at the same time became weaker and more frequent, he said he was free from pain and it was observed that his abdomen became more relaxed, but he was very thirsty and inclined to be restless.

He was given stimulants by hypodermatics and by the mouth, but he gradually failed and died about twenty hours after the operation.

Autopsy.—The abdominal incision looked well and the abdomen was relaxed; the abdominal cavity contained about a half ounce of blood-stained serum, but no signs of peritonitis were found and there had not been any further hemorrhage; the wound in the liver also looked well.

REMARKS.—I was very much disappointed in the result of this case, as I thought he should have recovered; death was due, I think, to the excessive loss of blood before the operation and to his habits; peritonitis I feel sure would not have developed, as the abdominal cavity was thoroughly washed out and left in a good condition, as the post-mortem examination proved.

Some difficulty was experienced in keeping the intestine in the abdominal cavity during the operation, especially while the incision was being closed; it was also difficult to draw the liver forward sufficiently to touch the wound with the cautery, as the edge of the liver, while the patient was in the recumbent posture, had been drawn up at least two inches above the position it had occupied when he was stabbed.

From the loss of blood and sweating his blood-vessels were almost emptied, and for hours before death his pulse was scarcely perceptible at the wrist.

CASE II. Pistol-shot wound of abdomen; abdominal section; recovery.—Peter McG., aged eighteen years, blacksmith, was admitted into the hospital July 4, 1887.

He was accidentally shot while struggling with a friend who had a loaded pistol in his hand. Upon admission about a half hour after the injury his

general condition was fair, his temperature was 98½°, and his pulse 110, there was slight fulness of the abdomen, and he complained of a dull pain in the umbilical region; the bullet-wound was one and a half inches to the left of, and a half inch below, the umbilicus; a probe readily passed along the wound into the abdominal cavity, taking a direction backward and to the right.

The operation was performed at 1 P.M., three and a half hours after the injury, and I was assisted by the resident surgeons. After the patient was etherized, the abdomen was opened by an incision in the median line, extending from two and a half inches above to four inches below the umbilicus, and a considerable quantity of fluid blood was found in the abdominal cavity.

The bullet had passed through the omentum near its attachment to the transverse colon, through the transverse colon, and then through the jejunum near its commencement, and through the mesentery of another coil of jejunum, lodging, it was thought, in the muscles of the back, to the right of the spine, but it was not traced further.

The four intestinal wounds were sewed up with fine silk, about twenty Lembert sutures being used; the wound in the mesentery was also brought together with silk sutures.

No fecal extravasation had taken place, the intestines appearing quite empty; there was considerable discharge of gas and blood from the wound of exit in the jejunum while it was being stitched, but this stopped as soon as the stitches were tied; some extravasated blood and a bleeding vessel were also found at the wound in the omentum, the vessel being ligated; there also seemed to be slight bleeding from some deep point in the back, which it was thought best not to waste time in looking for, but to trust to its being controlled by the pressure of the abdominal walls. In looking over the small intestine, a recent invagination was found in the ileum, of about one inch in extent, which was readily reduced, no adhesions having formed.

The intestines during the operation were kept covered with towels wet with a warm solution of the bichloride. The abdomen was thoroughly washed out with warm water passed through a blunt trocar and tube attached to an irrigating apparatus, so that all parts of the cavity could be reached.

The abdominal incision was brought together with silk sutures, a rubber drainage-tube being first passed about two inches into the abdominal cavity just above the umbilicus, and an iodoform, bichloride gauze, and absorbent cotton dressing applied.

The time required for the operation, including the application of the dressing, was one hour and ten minutes.

During the operation he had been given one or two hypodermatic injections of brandy and tincture of digitalis, as his pulse was weak. Just after the operation his temperature was 101°, and his pulse 120; at 4 P.M. his temperature had risen to 102°, but at 8 P.M. it had fallen to 100°, and his pulse to 104.

In the evening he was somewhat restless, and had a slight tendency to sweating; he was ordered a hypodermatic injection of morphia and atropia,

which had the desired effect; he was also ordered enemata of beef-tea and whiskey every four hours through the night.

July 5. He had passed a comfortable night, and was doing very well; his morning temperature was $100\frac{1}{2}^{\circ}$, his pulse 94, and his respirations 16. The abdomen was relaxed, but felt somewhat sore, otherwise he said he was free from pain; there had been a free discharge of bloody serum through the drainage tube. He was ordered small quantities of beef-tea and peptonized milk by the mouth, and the enemata were continued. At ten o'clock in the evening the drainage-tube was removed, as all discharge had stopped; after this he continued to do very well, with the exception of two or three slight attacks of vomiting which occurred during the first three days.

7th. The patient had a natural looking passage from the bowels.

9th. His temperature had fallen to 99° , and his pulse was 72; he was allowed fuller diet, and the nutritious enemata were stopped. Part of the stitches were removed to-day on account of suppuration having commenced along their tracks from the stitches cutting; the remaining sutures were removed three days later, and the parts were supported with adhesive plaster.

22d. He was allowed to get up; the wound had healed with the exception of a small superficial ulcer at the upper part.

August 5. Patient passed from under my care; his wound was perfectly healed, and he was apparently in his usual health, but he said that at times in making exertions he would have pains in his abdomen.

REMARKS.—The above, I believe, is the first successful case of abdominal section for gunshot wound that has occurred in this city, the few other cases that have been operated on have all died.

A very interesting point in connection with this case, and which was one of the first things to attract my attention after the abdomen was opened was the invagination of the ileum; it was situated somewhere near the middle of the small intestine, and had no doubt followed the injury; the wounding of the intestine most likely causing increased peristaltic action which led to the invagination.

Some difficulty was experienced in returning the intestines into the abdominal cavity, and keeping them in while the abdominal incision was being sutured, as the walls were very tense, and this tension was the cause of the stitches cutting, and the suppuration which followed.

Although no diagnostic symptoms of injury of the viscera were present in this case, abdominal section was decided upon from the fact that the ball was found to have entered the abdominal cavity.

I am very much indebted to the resident surgeon, Dr. Samuel B. Shoemaker, for the interest and care he took in the after-treatment of this case upon which, in a large degree, success in such operations depends.

CASE III. *Stab-wounds of chest and abdomen, with protrusion of omentum; death on the thirty-fourth day from empyema.*—Alexander H., aged twenty-eight

years, was admitted into the hospital August 14, 1886, having been stabbed with a penknife about three-quarters of an hour before admission.

Upon admission the patient, a man of temperate habits, large and very muscular, was suffering from severe shock and loss of blood. His temperature was 95° , and his pulse frequent and very weak. He had a stab-wound of the abdomen about two inches above, and one inch to the left of the umbilicus, through which the omentum was protruding, and he had also been stabbed in the chest about two inches to the left of the sternum, the knife passing between the second and third ribs, wounding the lung, as his expectoration was bloody, and most likely cutting the intercostal artery, as there was a large quantity of blood in the pleural cavity, and he had bled freely, externally; he also had another wound four inches in length on his left side, in the line of the nipple, exposing the ribs.

The abdominal wound was enlarged to about two inches, but no intestinal injury could be detected with the finger, and no cut could be found in the omentum; two and a half inches of the protruding omentum were removed, its base tied with catgut, and the stump returned into the abdominal cavity; the deep muscles and peritoneum were then brought together with three catgut sutures, and catgut was used for the superficial stitches; the other wounds were also sutured with catgut, and antiseptic dressings were applied.

The next morning the patient had reacted from the shock, but his pulse was still weak, and his respirations were frequent and shallow. Inflammation of the lung afterward set in with fever, delirium, and extreme restlessness. The abdominal wound did well until the fifth day, when the dressing became displaced, and the superficial stitches gave way; it was afterward found impossible to keep any dressing on for more than a few hours at a time, on account of his restlessness. The wound suppurated, but he did not have any peritonitis; the other wounds healed by first intention.

In a few days his lung cleared up, but the blood in the pleural cavity, instead of being absorbed, became purulent.

He passed from under my care on September 1st, at this time the abdominal wound was healing, and the others were healed, his delirium had passed off, but he still had slight fever and there was considerable effusion in the left pleural cavity; the effusion afterward increased, and he died September 17th of empyema.

At the autopsy the abdominal wound was found healed and the abdominal cavity normal, with the exception of the stump of omentum being attached to the seat of the abdominal wound.

CASE IV. *Stab-wound of abdomen with protrusion of omentum; recovery.*—John O'M., aged twenty-five years, was admitted into the hospital July 24, 1887, having been stabbed with a knife a few minutes before admission.

Upon admission the patient, a strong, healthy-looking man, was suffering from shock; his temperature was 97° , and his pulse 84; he had lost very little blood. The wound, which was one and

a quarter inches in length, was situated five inches to the left of, and three-quarters of an inch above, the umbilicus. The finger readily passed through the wound into the abdominal cavity, but no visceral injury could be detected, and no wound could be found in the omentum. The base of the protruding omentum was tied with catgut, and about an inch and a half removed, and the stump was returned into the abdominal cavity. The wound was brought together with catgut sutures, and the usual antiseptic dressings applied. The highest temperature reached after the operation was $99\frac{1}{2}^{\circ}$; the wound healed by first intention, and the patient did not have a bad symptom; he was discharged on the twelfth day after his injury, perfectly well.

REMARKS.—In the last two cases, as no visceral injury could be detected with the finger passed into the abdomen, and as no cut could be found in the omentum, it was believed that no visceral injury was present; and, therefore, it was considered unnecessary to perform abdominal section. In the first case, if silk had been used for the abdominal stitches, as I believe it always should be, if there is likely to be much tension on the stitches, I think the wound would not have been torn open during the delirium of the patient.

The spray was not used, otherwise all the operations were done under strict antiseptic precautions, with the exception of simple warm hydrant water being used for washing out the abdomen in the first and second cases.

SULPHURETTED HYDROGEN VERSUS THE TUBERCLE BACILLUS.

BY E. L. TRUDEAU, M.D.,
OF SARANAC LAKE, N. Y.

In an article published in THE MEDICAL NEWS for May, 1887, Dr. Hugenschmidt extols the efficacy of H_2S in rendering innocuous tubercular products, and quotes in support of his views the experiments of Niepce, who claimed that tubercular sputum exposed for ten minutes to an atmosphere containing 3 per cent. of H_2S was thereby rendered entirely innocuous to rabbits. These results have recently been frequently quoted and were so directly opposed to the evidence offered by my own recorded experiments with the gas in the proportions recommended by Bergeon, that I decided again to test the matter in the laboratory, making all the conditions as favorable as possible for the triumph of the sulphuretted vapor over the germs.

On May 10, 1887, a tube containing a pure culture of the tubercle bacillus was subjected for twenty minutes to a stream of pure undiluted H_2S , made from sulphide of iron and sulphuric acid. The conducting tube was pushed through the cotton and held within half an inch of the coagulated serum, and the jet of gas allowed to play freely on the bacilli upon its surface. The entire culture soon became so blackened by the action of the sulphur as to resemble dark-gray paint. The microbes thus treated were then mixed with sterilized water and injected into the pleural cavities of two full-grown rabbits.

These animals were at once placed in a large box, well fed and kept under a shed in the open air all summer, a favorable environment having been found to postpone materially the fatal issue in inoculated rabbits. On October 19th, or 162 days after the operation, both rabbits died within two hours of each other. The autopsies, which were made by Dr. Richard Hall and myself, showed typical and advanced pulmonary tuberculosis in both rabbits; the right lung was literally riddled with tubercles and large caseous foci, and the left lung was also extensively involved, while the bronchial glands were enlarged and cheesy.

This simple experiment seems worthy of record, inasmuch as the evidence it presents may help to correct any false impression already existing as to the germicidal value of H_2S . It also serves to demonstrate the resisting power of the tubercle bacillus and its spores as well as the difficulties attending any attempt at its destruction in living tissues by chemical agents. If so thorough an exposure to the undiluted gas is incapable of destroying this microbe, or of materially staying its destructive power, how futile must be the attempts made to incommode it by rectal injections, or inhalations containing infinitesimal quantities of this apparently feeble agent.

MEDICAL PROGRESS.

SURGICAL ANTISEPSIS AS PRACTISED BY NUSSBAUM, OF MUNICH.—NUSSBAUM still uses the spray, employing weaker antiseptics for rooms not already infected, and stronger preparations for suspicious rooms. Operator and assistants cleanse their hands for three minutes with soap and water, then with five per cent. carbolic acid, and then with sublimate solution. Sponges are not used. Nussbaum considers the aseptic treatment of wounds to be an ideal, realized with great difficulty; the sterilization of a wound is still more difficult, and a break in the chain of precautions will destroy the whole. Nussbaum lays especial stress on rest to an injured part; if possible, elevation; protection against infection; and thorough drainage. Chromic acid catgut is used as suture material. In lacerating wounds of the parenchyma of organs, or of cavities of the body, a dressing of material saturated with an antiseptic, and still damp, is used; when necrosis and suppuration are not expected dry dressings are used. The wet dressing consists of carbolized gauze wrung out of a two and a half per cent. carbolized solution, or of twenty per cent. iodoform gauze wet in boric acid solution and used in tampons; over these are placed dry gauze and salicylized cotton, among whose folds gutta-percha tissue is placed. Instruments and utensils are cleansed with five per cent. solution of carbolic acid. Nussbaum thinks very highly of salicylic acid in powder as a local application to fresh wounds. It is antiseptic and insoluble. Iodoform he also uses to promote granulation. For dry dressings peat cushions and wood wool are used, in addition to antiseptics.

Nussbaum mentions eighty different substances which have been investigated as antiseptics in surgery.—*Centralblatt für Chirurgie*, October 22, 1887.

A SPRAY FOR THE TREATMENT OF WHOOPING-COUGH.—KOLOVER sprays the fauces with the following solution in treating whooping-cough:

R.—Quiniæ sulph. gr. 50.
 Acid. sulphur. gtt. 30.
 Aquæ destill. 3 5%.

This may be used every two hours for the first three days, and every three hours for the remainder of the first week, after which it will be unnecessary.—*L'Union Medicale*, October 18, 1887.

MORPHINE PHTHALATE.—BOMBELON writes enthusiastically about this new salt of morphine, which he thinks has important advantages over all other morphine salts. It is uncrystallizable, but can be procured in shining transparent scales, which dissolve easily in five times their weight of cold water. The advantages he points out are briefly: 1. A form strikingly distinct from that of any other alkaloidal salt, rendering mistakes of identity almost impossible. 2. Extreme solubility in cold water. 3. Freedom from any irritating property, when used hypodermatically. 4. Permanence of its aqueous solutions, in contrast with those of other morphine salts.

It is prepared by dissolving pure morphine to saturation in a hot aqueous solution of phthalic acid, filtering the solution, concentrating by evaporation, and "scaling" on plates of glass.—*Pharmaceutical Era*, October, 1887.

OCULAR ASEPSIS.—GAYET, of Lyons, has investigated the presence of bacteria in and about the eyes, and found that in 178 cases, specimens of secretions taken from the conjunctivæ produced bacterial growths in 139, while 39 of the inoculated tubes remained sterile. In 100 eyes only 28 were free from germs. Age had no influence, but statistics showed that only 10 per cent. of men were free from germs, while 38 per cent. of women were exempt. Most of the tubes gave positive results in from twenty-four to forty-eight hours. Gayet employed careful antiseptics in his operations upon the eyes, using sublimate, and boric acid 1 to 600. In his first series of 157 cases, 107 were completely successful, 39 were complicated by minor accidents, and 11 had phlegmonous inflammations. In a second series, in which boric acid was employed, secretions were tested from 35 cases, 32 of which contained germs and 3 were sterile. Of the 32 cases in which the boric acid treatment was used, 27 were entirely successful, 3 gave good results, and 2 had phlegmonous inflammation. Gayet concludes that the majority of cases conceal bacteria under their eyelids. The use of antiseptic or aseptic means appears to have very little influence on the presence of germs in the conjunctival sacs; one can never be certain of disinfecting the field of operation. The germs which are found are not all pathogenic, but suppuration occurs in 6½ per cent. of cases, while it is estimated that 75 per cent. of tissues are fertile soil for bacterial growth. The spores seem to comprise the dangerous species, for they are found in eyes destroyed by accident, in which suppuration is inevitable. These spores are not always dangerous, for we can isolate those which will not produce suppuration.—*Revue de Thérapeutique*, October 15, 1887.

THE CLINICAL DIAGNOSIS OF CHLOROSIS.—GRÄBER, of Munich, concludes from his clinical observations of chlorosis that it is purely a blood disease, which is characterized by an excessive alkalinity of the blood plasma, with alterations in the form, size, and color of the red blood-cells. The diagnosis is made by establishing the following points:

1. Increased alkalescence of the blood.
2. Normal number of corpuscles, with lessened quantity of contained hæmoglobin.
3. Normal proportion and condition of leucocytes present.—*Therapeutische Monatshfte*, October, 1887.

TYPHOID FEVER IN THE TROPICS.—The peculiarities of typhoid fever in India are thus described by SURGEON BIGG, in the *British Medical Journal* of October 22, 1887:

1. The disease is sporadic.
2. It has originated when the drinking water was analytically pure, the drainage engineering perfect, and the surrounding sanitation vouched for by the sanitary and medical authorities as being good.
3. The absence of lenticular spots.
4. The existence of constipation throughout the disease. When looseness of the bowels is present, it is caused by the irritation set up by the presence of the accumulation.
5. The absence of enlargement of the spleen, unless that organ is specially affected.
6. The abdominal lesions are more diffused and scattered, involving ileum, jejunum, duodenum, and stomach. Ulceration is also sometimes found in the colon.
7. The abdominal organs may be quite free from disease.

EPHEDRIN, A NEW MYDRIATIC.—NAGAI, of Tokio, has obtained an alkaloid from a plant bearing the name of *Ephedra-vulgaris helvetica*, which has been used by MIURA, and has shown interesting mydriatic properties. The muriate is an easily soluble, white, crystalline substance, whose solution readily decomposes under the influence of light. The hydrochlorate, when given in doses of one-eighth or one-sixteenth of a grain, produced death in frogs, with progressive paralysis of respiration and cardiac action, no stage of acceleration having been observed. The heart ceased to beat in diastole. The pupils were greatly dilated. In mammals respiration and heart-beat were greatly accelerated, and both ceased suddenly, with choreic spasms and rise of temperature. Arterial tension was diminished. The pupil dilated when the drug was given subcutaneously, and when its solution was dropped into the conjunctival sac. Death occurred from respiratory and cardiac paralysis.

Fatal doses were in the proportion of five grains to every thirty-five and one-fifth ounces avoirdupois of the body weight of the animal experimented on. Experiments with six and seven per cent. solutions in men gave varying mydriatic effects. When one or two drops of a ten per cent. solution were dropped into an eye, dilatation of both pupils followed after from forty to sixty minutes. When the refraction of both eyes was the same, and no inflammation was present, the dilatation was equal. The pupil was not entirely dilated, but suffi-

ciently so to permit an examination of the whole retina.

When a strong light was turned upon such an eye a feeble reaction of the pupil was observed. Accommodation was very little or not at all affected.

Children and old persons were more susceptible than the young and strong. In cases of irritation or inflammation of the iris dilatation of the pupil did not occur. The duration of the mydriatic effect was from five to twenty hours.

No ill effects were observed after using the drug for fourteen days. Alteration in intraocular tension were not observed. Comparison with one per cent. solution of homatropine showed that the effect of atropine solution persisted sixty-nine hours. — *Wiener medicinische Presse*, October 16, 1887.

THE DIAPHOTOSCOPE.—SCHÜTZ, of Frankfort-on-the-Main, presented to the Dermatological Section of the recent Congress of Naturalists and Physicians, at Wiesbaden, an apparatus for endoscopy which resembles the ordinary ophthalmoscope in size and form, and mode of use. It includes, however, an electric source of light, with the proper mechanism for avoiding the transmission of heat, by means of which a thorough illumination of cavities to be explored may be obtained. The battery required to equip the apparatus is compact and convenient in size, and the inventor presents the whole for the investigation of the profession as an addition to the resources of those who practise endoscopy. — *Monatshefte für Praktische Dermatologie*, No. 20, 1887.

THE TREATMENT OF WHOOPING-COUGH.—MOIZARD has used the following powder by insufflation:

Benzoin. pulv.,	
Bismuth. salicylat.	aa 5 parts.
Quiniaz sulphat.	1 part.

The only apparatus needed is a simple rubber tube, and a source of air blast. The powder may be inserted in the end of the tube, and the tube placed in the nostril; air is then forced in, and the powder carried within the nares.

CARTAZ has used

Bismuth. subnit.	2 parts.
Benzoin.	4 parts.

GUERDER has used an impalpable powder of equal parts of boric acid and roasted coffee, by insufflation.

GRAFFNER has employed the following solution in spray, with excellent results:

Cocain. hydrochlor.	gr. $\frac{9}{16}$ to 1 $\frac{1}{2}$.
Aquæ destill.	3 11 $\frac{1}{4}$
Potass. chlorat.	gr. 8.
Aquæ amygdal.	

Cocaine may be also mixed with chloroform, in proportion of 6 to 100. Of this 10 drops should be placed in a glass of warm water, and the vapor inhaled. — *L'Union Médicale*, October 20, 1887.

THE INFLUENCE OF THE MICROORGANISMS OF THE MOUTH AND INTESTINES UPON DIGESTION.—VIGNAL has studied the action of seventeen species of microorganisms found in the mouth and intestines upon

digestion; and his results are summarized as follows by the *London Medical Record* of October 15, 1887.

Of these organisms, 8 dissolve cooked albumen, 5 swell it or render it transparent; 10 dissolve fibrine, 4 render it transparent or swell it; 9 dissolve gluten; 3 transform starch, but only 1 acts with some energy, another seems to live upon it, but without transforming it; 7 coagulate milk; 6 dissolve casein; 9 transform lactose into lactic acid; 7 invert cane-sugar; 7 cause glucose to ferment and transform it partially into alcohol; all these actions are more or less energetic.

Among these microorganisms, 6 resist more than twenty-four hours the action of the gastric juice at 36° to 37° C. (98.8° to 98.6° F.), whether the culture is recent or old with spores; 5 resist its action more than two hours, when the culture is recent, and more than twenty-four hours when it contains spores; 2 others resisted one hour only, when the culture was recent, and the spores of 1 of these resisted twenty-four hours, those of the other six hours only; the last 5 do not resist its action even for half an hour, whether the culture be recent or old.

Bile and the pancreatic juice, prepared artificially and possessed of very powerful action, have no destructive action on these microorganisms.

In fecal matter M. Vignal found again 6 of the buccal microorganisms (the bacillus mesentericus fuscus; the bacillus *d*, common in the colon; the bacilli *b*, *c*, and *e*; and the coccus *k*) and 4 other microorganisms, 7 streptococci, 1 coccus, and 2 bacilli. 1 of these latter dissolves albumen, 2 render fibrine transparent, 3 dissolve gluten, 1 transforms potato starch but not common wheat starch, although in order to furnish it with nitrogenous matter veal extract was employed in place of water; 2 coagulate milk; 1 partly dissolves casein, and coagulates what it does not dissolve; 3 transform lactose into lactic acid, 3 invert cane-sugar, and 2 partly transform glucose into alcohol. The action of these microorganisms must be considerable on aliments, for a series of enumerations showed that there were more than 20,000,000 of them in a decigramme of fecal matter, and these were not all developed in the mediums employed.

In order to attempt to realize what takes place in the digestive tube where the microorganisms are not isolated, M. Vignal cultivated several series of phials, on the one hand, with dental tartar and coatings from the tongue, and, on the other hand, with a little water in which fecal matter had been dissolved.

The attack of the substances contained in the phials was at first very energetic; but from the third day, sometimes from the second, the action was permanently arrested. Is it to be concluded that the microorganisms of the mouth and of the fecal matter, when mixed together, have no action on alimentary substances? Evidently not. The transformations they undergo under the influence of these microorganisms have come to a stop in the phials, because the glass sides of these could not, like the intestine, absorb the products they give birth to as fast as they were produced.

To sum up, the result of these researches is to justify M. Pasteur's opinion that these microorganisms play a very important part in digestion, and also that the phenomena of digestion in general, and particularly the part played by microorganisms, are more complex than was at first supposed.

LOCAL REFRIGERATION.—BAILLY has used chloride of methyl by an apparatus, which he terms a stypophore. By this means he carries the degree of effect produced to the grade of vesication, if needed. He applies this treatment in neuroses of various kinds, and styles it stypotherapy. —*L'Union Médicale*, October 20, 1887.

POISONING BY ANTIFEBRIN.—DOLL reports the case of a woman suffering from migraine, who purchased sixty grains (according to the apothecary's statement) of antifebrin, and took it in two doses at short intervals, at about 11 A.M. In three hours emesis, cold perspiration, and coma developed. At 9 P.M. Doll was summoned. He found the forehead, face, nose, ears, upper thorax, hands, and feet icy cold, and covered with cold perspiration; the other portions of the body were warm and moist: the color of the face was cadaveric; the eyes were closed, but opened when roused; pupils moderately dilated, and reacting feebly. The heart beat tumultuously, pulse 120, arterial tension varying greatly; respiration accelerated; abdominal pain and nausea present, attempts at emesis made, but unsuccessfully. The patient answered questions, stating that she had become unconscious after taking the drug. Free stimulation was given during the night, but alcoholics were avoided, as antifebrin is soluble in alcohol. The intoxication terminated with profuse perspiration and free defecation. The patient did not remember that she had talked with the physician. The effect of the drug resembled the condition of hypnotism more than anything else.

Two days afterward anorexia and headache persisted. The sensorium was free; and no other abnormal symptoms were present. —*Deutsche medicinische Zeitung*, No. 72, 1887.

A NUTRIENT AND SEDATIVE ENEMA may be prepared after the following formula:

Beef bouillon	3 3/4.
Eggs	1.
Bordeaux wine	3 6/4.
Bicarbonate of soda	gr. 8.
Tinct. opium	gtt. 4.
Chloride of sodium	gr. 3.
Peptone	3 4.

—*Revue de Thérapeutique*, Oct. 15, 1888.

DEATH BY HEART FAILURE FROM GASTRIC IRRITATION.—If the means of masticating food be wanting, the first stage of the process of digestion cannot, of course, be performed, and this is in itself a great evil; but as a recent fatal case has shown, actual perils to life from physical causes may arise, and perhaps become disastrously effective. By post-mortem demonstration, it has been proved that an accumulation of unmasticated food taking place in the stomach may so distend the stomach as to press upon and irritate the heart in such manner that, being in a morbidly weak or exhausted condition, its natural function may be arrested and death take place by syncope. It is a familiar fact that a greatly distended stomach may cause "palpitation" and other distressful experiences, and it is not in the least degree surprising to find that the excitation set up may be so aggravated as to produce fatal effects in

a special state of the organism. But it is important to notice how this untoward ending is reached, because the attainment of this issue is only a question of degree in the disturbance. The operation from cause to effect is purely one of nerve action, and the *modus operandi* is either completely reflex, in which case the process is exhaustive as regards the particular centre affected, or partially reflex, the circuit, so to say, being broken at the centre, and the force of the peripheral excitation exerting an inhibitory influence on the cardiac or occasionally on the respiratory centre. It seems probable that in certain cases there may be spasm of the muscular coat of the vessels of the heart (perhaps the coronary), or of the heart itself, producing either a condition resembling that which is supposed to obtain in some forms of "angina," or arresting the ventricular contraction in systole, or, it may be, by asystole, though this last-mentioned ending is perhaps more commonly reached by inhibition, as in another class of cases. When the excitation caused at the periphery is of a nature corresponding with, and in some respects resembling, high tension of an electric current, the stimulus propagated along the afferent nerve trunk may so act on the centre, indirectly, perhaps, as to interrupt its action. In this last event death will occur by arrest of the ventricular movement in diastole or arrest of the systole. Or the obstructive or exhaustive action may be upon the respiratory centre with seemingly "asthmatic" symptoms at the opening of the attack, in the course of which death occurs. Happily, cases of a fatal issue from peripheral irritation of the nerves are not of very common occurrence; but this renders it the more desirable that those which do occur should be very carefully investigated. The subject of death from "heart-disease" is one that greatly needs to be studied in the light of precise pathology. —*Lancet*, October 22, 1887.

MINOR POINTS IN SURGERY FROM NUSSBAUM.—NUSSBAUM, of Munich, in using the thermo-cautery, employs a strip of wood, like a ruler, pierced by one or more holes as desired. This is dipped in ice-water and pressed firmly against the part; the cautery is then applied through the apertures. By this means bleeding and too extensive burning are prevented. Nussbaum frequently burns deeply into tumors which cannot be removed, causing a contraction and cicatrization of the growth, checking its progress.

In wounds of the cardiac ventricles Nussbaum advises the alternate opening and closing of the external wound four or five times in twenty-four hours. Coagula are thus removed, and fatal decomposition of the blood is prevented.

In parenchymatous bleeding tampons of cotton soaked in peroxide of hydrogen have given excellent results in checking hemorrhage. —*Centralblatt für Chirurgie*, October 22, 1887.

THE SPREAD OF DIPHTHERIA.—At the late International Congress of Hygiene, at Vienna, PROFESSOR TEISSIER, of Lyons, gave the result of his experience as to the spread of diphtheria. In his opinion the infective agent of the disease could not be propagated either by water or by food, and only in very rare cases by direct contagion from person to person. He believed that the virus was present in the earth, and was conveyed into

the human organism by means of the dust which penetrated into the air-passages. He attributed great importance to the diphtheria of fowls as the means of communicating this disease to man, and affirmed that he could prove that the disease had actually been communicated in this way.—*British Medical Journal*, Oct. 22, 1887.

SALOL IN THE TREATMENT OF BLENNORRAGIA.—A simple but efficient mode of using this drug in blennorrhagia is by combining it after the following formula:

Salol	10 parts.
Gummi Arab.	5 "
Aquæ destill.	200 "

of which an emulsion may be made.—*Révue de Thérapeutique*, October 15, 1887.

A NEW OPTOMETER.—At the recent meeting of the German Ophthalmological Society, at Heidelberg, DR. G. S. BULL, of New York, exhibited an instrument which he had devised, which is described as follows by a correspondent of the *Cincinnati Lancet* of October 29, 1887:

Consisting of a brass strip (like a ruler) about two feet long, with a handle beneath by which to hold it, at one end a diaphragm with a sight-hole, behind which a series of lenses is adjusted and readily changed; on the surface of the ruler (as I will call it for convenience) is engraved a series of *dominos* drawn in exaggerated perspective; on looking through the lens some one or another of these *dominos* is seen in perfect shape—for instance, an eye looking through a +5 dioptric lens and seeing the domino with points sharply and perfectly defined is emmetropic—the domino lies at just the focal distance of the +5 lens (about 8 inches); if the eye sees any domino beyond the five point, hypermetropia is shown, and its degree to within a fraction of one dioptric; myopia is proven when a nearer domino is defined. An attachment for estimating astigmatism is equally rapid and simple.

PRECAUTIONS TO BE ENJOINED UPON A PATIENT SUFFERING FROM CHANCROID.—BESNIER advises the following cautions in the *Révue de Thérapeutique* of October 15, 1887:

The contact of urine with the chancroid should be avoided, as suppuration is then favored.

After micturition the chancroid should be washed with a solution of boric acid and covered with a protective ointment.

The pubes should be frequently bathed with soap and water, and a pomade of boric acid, one-tenth per cent., thoroughly applied. If a bubo occurs, the parts should be shaved, and collodion applied.

TARNIER'S BASIOTRIIBE.—Tarnier's basiotriibe, a somewhat complicated instrument which was described by him to the Paris Academy of Medicine in December, 1883, has recently been used in three cases in Professor Kufferath's obstetric wards in Brussels, with, it is stated, very satisfactory results, the application being made with great facility, no splinters penetrating the scalp, and the mothers being all able to leave the hospital on the tenth day.—*Lancet*, October 22, 1887.

NINETY INTESTINAL PARASITES IN ONE INDIVIDUAL CASE.—DR. ROUX, Surgeon of the Cantonal Hospital at Lausanne, describes in the *Correspondenzblatt für Schweizer Aerzte* of August 15, 1887, a singular case in which the patient, a girl, aged 21½ years, discharged (after two 90 minim doses of extract of male fern) at least ninety bothriocephali lat. The worms passed out in a bundle, the patient assisting the delivery by tearing the package with both her hands, and at the same time uttering shrieks like a woman in labor. The agonizing delivery lasted ten minutes. The mass of parasites filled up a half of a chamber utensil. The disentangling and counting took exactly four hours and a half of the author's time. As an individual only such a worm was considered which had a head, and at its other end measured not less than 3 or 4 millimetres in breadth, or which had an absolutely thread-like (though headless) anterior end, and measured not less than 1 metre in length. Numerous very long ribbons, which did not answer those conditions, were left out of the reckoning; neither were any of the ribbons which had been discharged several times by the girl for a couple of weeks previously taken into account. There could be no doubt, therefore, that the number of worms, given as 90, in reality far surpassed that figure. The length of individual bothriocephali varied between 250 and 60 centimetres, a large number measuring only between 100 and 60. Except some slight nervous phenomena (such as occasional headaches, vivid dreams, *semi-somnambulisme*), the patient did not present any morbid symptoms. She was a robust and ruddy, and even cheerful and active, country girl, with excellent appetite and digestion, and with 95 or 97 per cent. of hæmoglobin in her blood (as Gowers-Sahli's hæmoglobinometer showed). The case seems to give a support to Dr. Zschokke's theory, according to which the prevalence of bothriocephalus latus amongst the population residing around Lake Lemman should be attributed to the eating of infected fish, mainly that of perch (*perchette*). At least, the girl, who had come to the locality from Argovia about the Easter of 1884, during a period of several months' duration, in 1886, was dining on perch (and bothriocephali) once a week, or even still more often, the patient residing at the time at Bonvard, near the lake mentioned.

INDICATIONS FOR INTRAUTERINE MEDICATION FOR PUERPERAL SEPSIS.—BOKELMANN considers intrauterine douches indicated:

1. When, forty-eight hours after birth, the temperature rises to 101.5° F. or 102.2° F., with frequent pulse, without a recognizable cause for it.
2. When fragments of placenta or membranes remain in the uterus as a cause for disturbance.
3. When symptoms of infection of the endometrium are present.—*Berliner klinische Wochenschrift*, No. 37, 1887.

IODOL IN OTITIS MEDIA PURULENTA.—PURJESZ, of Budapest, has treated eighteen cases of suppuration in the middle ear with iodol. The remedy was applied by insufflation once daily. Lessened secretion and painless improvement followed. Two cases only resisted treatment. No unpleasant effects referable to iodol were observed.—*Therapeutische Monatshefte*, October, 1887.

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will be liberally paid for upon publication. When necessary to elucidate the text, illustrations will be furnished without cost to the author. Editor's Address, No. 1004 Walnut St., Philadelphia.

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SATURDAY, NOVEMBER 12, 1887.

OUR QUARANTINE DEFENCES.

ANOTHER Mediterranean steamer has arrived at the New York Quarantine, bringing another batch of immigrants from the cholera-infected localities of Italy. Notwithstanding the assurance of the Health Officer who performed the official inspection, that the ship, crew, and passengers are in an excellent sanitary condition, and that the ship's log shows no evidence of disease during the passage, this new arrival occasions renewed anxiety that, in the absence of a thoroughly equipped and efficient quarantine, the continual influx of people and baggage from cholera-infected districts, sooner or later, will plant this terrible scourge somewhere in our midst. If the utmost care and vigilance be not constantly exercised by the quarantine officers at the port of arrival, especially with regard to baggage and concealed cases of cholera which find no mention in the sanitary record of the voyage, the experience of the last epidemic of 1873, no less than our present knowledge of the means by which this disease spreads, points to what may ultimately occur this year or the next. It is now known that outbreaks of cholera at Carthage, Ohio; Crow River, Minnesota; and Yankton, Dakota, in 1873, were caused by infected household goods of emigrants from Holland, Sweden, and Russia. "These immigrants sailed from healthy ports, in healthy vessels, and were subjected to the usual sanitary requirements of the period. They passed through New York and all the intermediate territory without injury to the public health. But when their infected goods were unpacked in the interior of the continent, they liberated the poison which gave rise to the local outbreaks."

As bearing upon the frequent perfunctory manner

of disinfection practised at the "model quarantine stations" in this country, and as supplementary of the criticisms which have previously been made in THE MEDICAL NEWS, concerning the inefficiency of our quarantine safeguards, it may not be inappropriate to refer, at this point, to the remarks of the President of the American Public Health Association in his Annual Address, (see page 561), in which he describes the method of so-called disinfection which he actually witnessed at the port of New York, in the month of September last, on his arrival from Brazil.

It is to be hoped that the authorities at New York begin to understand that whatever alarm has been excited by the presence at that port of two cholera ships and the frequent arrival of immigrants with personal effects from districts where cholera has been recently raging, has been caused rather by the knowledge of the deplorable state of the defences exposed by the report to the College of Physicians of Philadelphia, than by a blind, unreasoning fear of a dread disease. And it may be remarked, just here, that it is neither through the inconsiderate passage of resolutions by quarantine commissioners hindering in the future any access to quarantine stations for the purpose of investigations in the interests of science and the public health, nor through the vituperation, by presidents of quarantine commissions, of the motives, or the acts, or the statements of scientific men who fearlessly make a plain, disinterested, and temperate report to a scientific body of personal observations respecting matters which affect the welfare of sixty millions of people, nor through unscrupulous attempts to prevent prompt and searching reforms by invoking against them the bitterness and prejudice of partisan politics, that this reasonable alarm is to be allayed. The New York quarantine establishment should be at once so thoroughly improved, both in plant and administration, that the country may not only feel secure, but really be safe from the introduction of cholera through that port, and it should be at all times open to the inspection of properly accredited examiners.

We learn with satisfaction that the Mayor of the city of New York has recently not only addressed the President of the United States with regard to the temporary prohibition of immigration from the cholera-infected districts as a measure of public health, but has also sent an official communication to the Health Officer of the Port of New York, calling his attention to the faults pointed out in the Philadelphia report, and offering to raise by voluntary subscription any reasonable sum necessary to make the quarantine at that port what it should be.

Through the evils of our present quarantine system the greatest city in our country, and with it the whole country itself, must rely for protection against

epidemic disease upon voluntary subscriptions from private citizens, alarmed by their recent knowledge of dangers which have threatened them for years. But the report of Drs. Wilson, Shakespeare, and Cleemann, pointed out the fact that the ports of Philadelphia and Baltimore are even much more defenceless against a foreign invasion of cholera than is that of New York, and we should be glad to learn that active measures are being taken to remedy the condition of affairs at these points.

Too implicit trust in the approach of winter, a season in which cholera epidemics do not usually prevail in cold latitudes, as a safe guarantee against the introduction and ultimate spread of this disease, is dangerous, for it should be remembered that Moscow has witnessed a severe winter epidemic, and it should not be forgotten that a late visitation of cholera in the United States came in the dead of winter, and through the port of New Orleans.

It is to be hoped, then, that our present and future danger from cholera, and the justly disquieting facts revealed by the above mentioned report concerning the intrinsic weakness of our maritime defences, together with the public anxiety at present existing, will forcibly aid the efforts of the conservators of the public health in their endeavor to procure national legislation this winter which will provide efficient ways and means for the constant defence of the general public from epidemic diseases brought into our ports from foreign shores.

MERCURIAL HYSTERIA.

THE various effects produced by different metallic substances finding a constant but slow entrance into the body are so constantly mistaken by the practitioner for symptoms of some organic disease of idiopathic origin that the paper of LETULLE in the *Gazette Hebdomadaire* of Sept. 23 and 30, 1887, is of interest, in that it calls attention once more to the possibility of the production of markedly aberrant symptoms by a metallic poison other than lead.

Hysterical hemianæsthesia or monoplegia due to the presence of lead or arsenic in the system has been recognized for years, and carefully studied by Vulpian, Charcot, and others, notably Debove, who applied the term *hysteries toxiques* to all conditions of this character. In 1877, Dr. Jean published the records of two remarkable cases of hemianæsthesia due to the chronic absorption of mercury, and his report has been followed in France, by Hallopeau, Aigre, and several others.

Subject to these attacks are artisans engaged in the manufacture of barometers, thermometers, mirrors, and all the handicrafts in which mercury is employed. Abnormal conditions arising from this cause are, therefore, even more frequent in men than in women, and the diagnosis of a case of hys-

teria occurring in an otherwise healthy male should lead the clinician on the path toward questions calculated to discover any mode of contamination by this metal. The mere fact that the hysterical condition, or other nervous disturbance, has lasted for months, or even years, seems to be no ground on which to base an opinion against the presence of some toxic material, for Letulle reports a case of this character who had passed through the hands of no less than six physicians during six and one-half years. It should be remembered, also, that mercury is as capable of producing strange and varying symptoms as is any other poison of like nature, and all the writers on the subject have met with cases in which limited or general choreas, hemiplegia or monoplegias have existed along with marked sensorial disturbances. Aphasia is by no means a rare occurrence, and tremulousness, closely resembling that of Parkinson's disease, often tends to make a correct diagnosis the more difficult.

The methods of treatment are naturally much the same as those applied in chronic poisoning by lead, and consist in the elimination of the cause, both primary and secondary. The patient should be removed from the mercurial exposure, and those drugs should be administered which we know tend to aid in the elimination of such poisons and the building up of the system.

COLD WATER INJECTIONS IN CATARRHAL JAUNDICE.

RECOMMENDED several years ago by Krull, lavage of the intestine in jaundice has already gained in favor, and the reports by Lowenthal, Eichorst, and Krauss show that in many cases a more rapid recovery follows than when alkalies and diluents are administered by the mouth. In the *Revue de Médecine* for September, CHAUFFARD reports seven cases, in six of which the obstruction to the bile-flow was overcome in from four to six days; in one case on the eighth day. From one to two quarts of cold water are injected. The temperature of the water may be a little raised on succeeding days. The injection usually induces a lively peristaltic action, which may be irregular and cause painful colic. To the extension of the movements to the duodenum Krull attributes the beneficial effects of the treatment, as the active contraction of this part of the bowel is likely to cause expulsion of the obstructing mucus. Chauffard regards the action as entirely reflex, the cold water inducing a strong contraction of the gall-bladder and larger bile-ducts. Normally it is in this reflex manner that the chyme in the duodenum induces expulsion of the contents of the gall-bladder, and it seems probable that the sudden shock of a large injection of cold water would induce active contraction of the walls of the ducts.

In this country the method has been used with

success by Musser and others at the Philadelphia Hospital, and it is worthy of a more extended trial than it has yet received.

QUARANTINE DOES NOT DEAL WITH THE MOST DANGEROUS DISEASES.

In relation to the importation of scarlet fever to Sutton's Bay, Mich., by emigrants on the steamship "Ohio," reaching New York September 30, 1887, noticed in our issue of October 29th, Dr. William M. Smith, Health Officer of the Port of New York, says: "Developed cases of diphtheria and scarlatina arriving on vessels at this port are removed to Ward's Island. It is impossible, under the law for the Health Officer or the authorities at Castle Garden, to quarantine persons who have been exposed to the contagion of these diseases; consequently, the sick on board vessels during the voyage, doubtless, often infect the relatives, or those with whom they come in contact . . . and who carry the latent contagion to interior communities. I would be glad if the law allowed those exposed to the contagion of these diseases to be held for observation, as is the case when persons are exposed to the contagion of smallpox."

The instance mentioned above is an illustration of what Dr. Smith says, the child having been exposed during the voyage, was taken sick with scarlet fever the day after arrival at New York; so the infected child went on its way, to spread scarlet fever. In Michigan at least, ten times as many deaths occur from either scarlet fever or diphtheria as from smallpox, and the question may be well asked, Is it not time that the whole subject of quarantine was investigated by the States, and by the United States Government, with a view to protecting the people of this country from the introduction of the really dangerous diseases?

DEATH OF MOSES GUNN, M.D., LL.D.

THIS well-known surgeon and teacher ended a long and active professional life at Chicago, on November 4, 1887, aged sixty-five years. Of Scotch descent, he was born in the State of New York, where his youth was spent, and where he received his medical education at the Geneva Medical College, graduating in 1846. He settled at Ann Arbor, Michigan, where he commenced at once to teach anatomy. On the organization of the University, he was appointed to the Chair of Anatomy and Surgery, and the latter branch he taught for fifteen years. In 1853 he removed to Detroit, where he practised, contributing frequently to the current periodical literature. In 1861 he accompanied McClellan's army, seeing much active and arduous service. In 1867 he succeeded Daniel Brainard in the Chair of Surgery in Rush Medical College, where his business energy, skill, and popularity as

an operator and teacher contributed largely to the prosperity of the college.

In 1851-52 he made a series of dissections and experiments to determine the pathology of dislocations of the hip and shoulder, and he was one of the first to formulate clearly and demonstrate the method of treatment by manipulation. As an operator in plastic surgery, he was especially expert; and as a teacher of surgery he was unsurpassed. He was a member of numerous societies, among them the American Surgical Association, and presided over its annual meeting in April, 1886, on which occasion he contributed a paper on "The Union of Nerves of Different Functions," which was published in *THE MEDICAL NEWS* of May 8, 1886.

MAYOR HEWITT, of New York, has written to Dr. W. M. Smith, Health Officer of that port, calling his attention to the criticisms made by the Committee of the College of Physicians of Philadelphia on the management and arrangements of the Quarantine Station there, and suggesting that the defects be remedied. The Mayor says that if a lack of money stands in the way of making needed changes, he will undertake, by an appeal to his fellow-citizens, to raise any reasonable sum. The Mayor has also written to President Cleveland, suggesting that a friendly representation made to the Italian Government might secure greater precautions in the clearance of vessels from the cholera regions, until the disease has disappeared therefrom.

THE first award under the William F. Jenks Prize Fund, of the College of Physicians of Philadelphia, will be made by the Committee, for the best essay upon "The Diagnosis and Treatment of Extra-uterine Pregnancy," as soon after January 1, 1889, as may be practicable. Papers for competition must be written in English, and be presented by the said date. The prize essay is to become the property of the College. The prize amounts to \$250, and is open to all the world.

WE understand that DR. J. SOLIS COHEN has resigned his professorship in diseases of the throat and chest at the Philadelphia Polyclinic, and that he contemplates withdrawing from the attending staff of the German Hospital, at the close of his present term of service, the main object in these withdrawals being to gain time for literary work.

REVIEWS.

ANÆMIA. By FREDERICK P. HENRY, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Pp. 136. Philadelphia: P. Blakiston, Son & Co., 1887.

OUR knowledge of the various forms of anæmia has been so greatly extended within the past few years that

a special monograph will be heartily welcomed. Among American writers no one is better qualified than Dr. Henry to write on this subject, to which for a long time he has devoted earnest study. In the first part of the work the methods of examination are described and the symptoms, diagnosis, and treatment of anæmia fully discussed. Dr. Henry offers an excellent classification of the varieties of anæmia. Under the first division, primary anæmias, are included affections of the cytogenic organs, chlorosis, Hodgkin's disease, leukæmia, and pernicious anæmia. The secondary anæmias are those of fever, hemorrhage, cancer, etc. The toxæmia resulting from the poisons of lead, arsenic, etc. form a third group; and a fourth, the parasitic anæmias, caused by the ancylostomum, the filaria, the organisms of malaria, and the Bilharzia hæmatobia.

We take special pleasure in calling the attention of practitioners to this work as one from the study of which they will rise with clearer ideas on the diagnosis and treatment of forms of disease met with every day in practice, and the true nature of which is too often overlooked or misunderstood.

SOCIETY PROCEEDINGS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, October 26, 1887.

THE PRESIDENT, J. SOLIS COHEN, M.D.,
IN THE CHAIR.

DR. THEOPHILUS PARVIN read a paper on

INJURIES OF THE FÆTUS DURING LABOR.

(See page 561.)

DR. W. T. LUSK, of New York, said: Dr. Parvin, in his exhaustive *résumé* of the subject, has said that we should exercise charity toward those under whose care these accidents may happen. At the same time I think we should, as scientific men, look upon this record as most humiliating, and should ask ourselves if we should exercise this charity toward ourselves as individuals, should these accidents fall to our lot.

In going over the subject there may, however, be found one or two matters which have been overlooked, or which it might be well to make more emphatic. In speaking of fractures of the skull occurring in spontaneous deliveries, cases which occurred many years ago have been given. In modern times reports of fractures in head-presentations terminating without the intervention of art are very rare. My attention has been called to one such case reported by Veit. The patient had received large doses of ergot. When the child was expelled it was found that the right parietal bone was separated from its fellow, from the occipital, and, to a great extent, from the frontal bone, and two fractures were found in the bone itself. It is a question, whether the cases of spontaneous fracture reported many years ago were due to the abuse of this certainly most unreliable drug.

I saw last summer a very interesting case of depression of the skull following a rather easy forceps delivery. I was sent for because the question had arisen between two practitioners as to the advisability of trephining the

skull—introducing an instrument and elevating the depressed bone. I am not sure that this might not be good practice in some instances, but so far we have had no experience as regards results. We know that if the child shows no immediate symptoms from the depression, it is likely to thrive, and that in time the depression nearly or entirely disappears. In the case above referred to we decided to wait, the child has been thriving since, there is still a quadrilateral depression in the frontal region which has not entirely disappeared. I was quite certain that the mother of this child had a contracted pelvis with projection of the promontory; but, in making an examination some three or four weeks after the birth of the child, to my surprise, found that the woman had a fairly roomy pelvis. The antero-posterior diameter measured at least three and three-fourths inches. The only conceivable cause of the depression was the blade of the forceps. This was to me certainly a novelty.

With reference to the amount of force which may be exerted on the neck of the child, I think that if we rely upon the experiments to which reference has been made, we are likely to be led into error. There is no doubt that the resistance of the neck under pressure varies greatly in different subjects. While the neck of one child will bear a weight of 160 pounds, the vertebrae of another will separate under a much less amount of tension. I do not believe that there are even circumstances in which such an enormous pressure as 160 pounds should be exerted. If the after-coming head is retained by tonic retraction of the womb, such traction force must tear through the cervical tissues. If the head is retained by the brim of the pelvis, it is nearly certain that the child will be stillborn when the necessity for such an amount of force exists. It is a question whether we ever should use much force in pulling on the child; whether, indeed, the head cannot better be shoved through the pelvis by suprapubic pressure, in the manner described by Dr. Goodell and Dr. Taylor.

There is one injury to the child which I do not think was particularly referred to by the author. He spoke of the dislocation of the occipital bone which sometimes occurs. In the case of a flattened pelvis, where the head enters in the transverse diameter, it will sometimes happen, where forceps are used, that the pressure of the blades bears directly upon the forehead and upon the occiput. This will be tolerated for a certain length of time, but, when continued, the pressure ultimately affects the medulla oblongata. It is then difficult to get the child to breathe, the respiratory sense being destroyed, and often the child is born dead, as the result of such pressure. It is always well to be careful that, when the blades of the forceps cannot be applied to the sides of the head, they are applied in the oblique diameter.

With reference to the fracture of the clavicle, it sometimes happens that this injury is due to direct pressure; more frequently, according to Ruge, it is due to the introduction of the hand into the vagina to bring down an extended arm. If the pelvis is small, the vagina rigid, and there is insufficient room for the hand, as the result of pressure upon the shoulder, the clavicle is apt to bend like a bow, and break in the middle.

In a well-conducted labor, the arms should not become extended above the head. In cases where this

does take place, we know the directions that are given to draw on the elbow and push the arm over the face, but where the space is small you cannot always press the arm around the front of the face in the limited time required to extract the child alive. In these cases I think that we are justified in breaking the arm to accomplish delivery. Cases of true dislocation are probably exceedingly rare, at least we have no evidence of cases where the lesion has been demonstrated by dissection, but separation of the epiphyses closely resembles dislocation backward or forward, and until dissections were made, dislocation was considered a common accident. There are one or two points in regard to separation of the epiphyses that are of interest. As a consequence of this fracture, Küstner has shown that the cartilaginous portion of the bone is rotated outward by the action of the infra- and supra-spinatus and the teres minor muscles, while the shaft of the bone is rotated inward by the pectoral muscle, the latissimus dorsi, and the teres major. If the position of the arm is not rectified and union is allowed to take place, the movements of the arm will be more or less affected. Both external and internal rotation can then be accomplished only to a slight extent. Separation of the epiphyseal end of the humerus closely simulates paralysis, and some recent writers have gone so far as to assert that all cases of supposed paralysis of the arm are really cases of this injury. This is, however, not always the case. Last summer I attended an excitable primipara, who, early in labor, passed into a maniacal condition which necessitated keeping her under an anæsthetic. After the chloroform had been kept up for two or three hours, the cervix was partly dilated, and not wishing to continue the chloroform, for the immunity which attends its use in labor does not apply to its prolonged administration, I put on the forceps before dilatation was complete, and with considerable difficulty extracted the head through the cervix, the vagina, and through the vulva. The perineum did not tear, but the moment the head escaped, the vaginal orifice closed down tightly on the neck of the child, and I was compelled to introduce two fingers into each axilla to complete the delivery. After the birth one arm was found to be paralyzed. As I knew these have been recently asserted to be cases of epiphyseal separation, I examined the arm with great care, but failed to find the slightest evidence of fracture. There was no pain. There were no evidences of brain disturbance, although the pressure of the forceps had been continued for a long time. The galvanic current was applied to the arm, frictions were employed and it was kept warm, and in about ten weeks the child began to move its arm, though recovery is still far from complete.

To pass over the other points referred to, I should like to say a few words in regard to extraction in breech cases. It is nearly impossible where the arm has been bent behind the neck of the child to extract the arm without fracture. Then why not fracture the arm? Is the physician responsible if this accident occurs as the result of efforts to release the member? I should say, no, but he is responsible for the displacement of the arm behind the head. If he leaves the body alone and does not twist the trunk, the arm will not remain extended. The child does not spontaneously flex its arm and place the forearm underneath the occiput.

There is a case recently reported by Englebach which I would add to the list of accidents. In this case the child was born with an enormous swelling of the scrotum, due to an effusion of blood into the tunica vaginalis of each side.

I have taken some interest in the questions connected with the extraction of the breech when both extremities were reflected upward, and I wish to reiterate what I said two or three years ago with reference to the use of forceps to the breech. In a recent brochure Küstner condemns this method, but confesses to have never tried it. We all know that in the exercise of the usual method, a person with strong fingers is capable of exerting a great deal of force which bears to a great extent on the sacro-iliac synchondroses, and under these circumstances rupture of the sacro-iliac joint is likely to take place—a rupture which may be followed in after life by the development of the Nægelé deformity. I think that the application of the forceps to the breech is easier than a person who has not tried it would suppose. I speak of cases where the breech has reached the floor of the pelvis. Here it is not necessary to use a great deal of force. If the breech is brought down to the perineum and then allowed to recede, and this is continued until physiological softening of the pelvic floor and perineum takes place, a very moderate degree of force is required. I think that the use of the forceps under these circumstances is attended with less risk to the child than the employment of the fingers or the blunt hook. I have succeeded with the forceps in three cases where the fingers had been used in vain.

I do not feel like occupying any more of the time of the Society. I would say, in conclusion, that this is a subject to which too much attention cannot be given, for woman after passing through the discomforts of the period of gestation, and the perils of labor, is entitled to the only reward that it is possible to give her, that of having a living child, sound in body and limb; and anything that will contribute toward the prevention of such a record as we have heard to-night is certainly worthy of the attention of any body of scientific men. At the present time the public hold us responsible if we allow a patient to die of puerperal fever. It would probably intensify our interest in the subject if the public were to take a similar position with reference to dead and injured children.

DR. WHARTON SINKLER said: A very large proportion of the cases of paralysis that I have met with in infants, have followed instrumental or prolonged and difficult labors. The most frequent form that we meet with is facial paralysis, either unilateral or bilateral. This generally results from the pressure of the forceps upon the facial nerve or upon the mastoid process. Facial paralysis may, however, result simply from the impaction of the child's head in the pelvis without the use of the forceps.

Hemiplegias are often met with in the newly born as a result of the use of the forceps. A few days ago I saw a child with right hemiplegia, and the mother stated that the child had been delivered by forceps, and that immediately after birth there was a deep depression behind the left ear. I found upon examination of this child, who was now sixteen months old, that a depression still existed in the left mastoid process. There was right hemiplegia present. The right leg was spastic and the

movements of the arm limited and incoördinate. Spastic paralysis and what is sometimes called double spastic hemiplegia very frequently occur in children who have been born by the breech. These conditions generally persist during life and are associated with a feeble condition of the intellect.

Professor Parvin has referred to injuries to the sterno-cleido-mastoid muscle. I have seen cases where the child has lost power in all the muscles of the neck so that it was unable to support the head. Some of the cases have been delivered by the breech and considerable traction made. Some have followed delivery by forceps perhaps from pressure on the spinal accessory nerve, or perhaps from extravasation of blood. In the case of paralysis following difficult or instrumental labors, the lesion is often an extravasation of blood over the motor convolutions, a meningeal hemorrhage. If the amount of the extravasation is great, the prognosis is, of course, bad, but in some of the cases, especially where there is monoplegia, where there is paralysis of one arm alone, the child entirely recovers the use of the limb; and in facial paralysis recovery, as a rule, occurs in a few days, but the condition may persist during life.

DR. W. GOODELL said: I present for inspection, this evening, a specimen of firmly united fracture of an infant's humerus, of which I am not ashamed, but rather proud; for by the fracture I saved the child's life. It was a case of breech presentation, where the heart's action was failing, and the ominous convulsive movements of the child were giving out, which indicates the near approach of death. The arm was up alongside the child's head, and, if I had had more time, I could have brought it down without injury; but every second was precious. So I snapped the arm, and quickly delivered a living child. It died a few months afterward, of cholera infantum, and the mother, knowing my interest in the case, allowed me to obtain the specimen. I have reported elsewhere a unique case, where fracture was produced by the maternal forces. The vertex presented, the pains were strong, the passages ample; but the head did not descend. Suddenly, during a severe pain, a hand shot out of the anus, without tearing the perineum. While I was gazing on in amazement, another pain suddenly took place. There was an audible snap, the hand as quickly disappeared from the anus, and the child was born with a fracture of the clavicle. The rent in the vagina was sewed up, and the fracture dressed with adhesive strips. The vaginal wound healed up perfectly, and the child recovered without deformity. This remarkable accident I attribute to the arm being thrown across the nucha. The protruding hand perforated the vagina, and was button-holed there. Then the advancing body forcibly dragged the arm down the back of the child, and the clavicle was fractured by the twist or strain it got.

In a case seen with my friend, Dr. James F. Wilson, fracture of the clavicle, and of the skull also, occurred. It was an exceedingly difficult case. She was delivered in her first labor by craniotomy, by Dr. Wilson, in conjunction with the late Dr. Parry. In this, her second labor, after using the forceps ineffectually, we turned, and delivered in a very few minutes, by vigorous traction, and by very great pressure from above. The fractures were caused by the projection of the sacro-iliac promontory. The child recovered perfectly.

I have repeatedly seen facial paralysis; but in instrumental labors it has occurred only when the blades of the forceps were not applied exactly to the sides of the child's head. Dr. Parvin speaks of the child living a few hours after the performance of craniotomy. It was to such an occurrence that we owe the travels of Mungo Park, who was a physician, but who, early in his professional career, was so disgusted by this accident that he gave up practice. In his case the infant lived to manhood. With regard to head-last labors, I have tried to deliver the breech by the use of the forceps on the buttocks, and have succeeded with them, but they are liable to slip off. I therefore always bring down a leg in breech cases, and then I have command of the situation. The force of traction which the neck will bear is uncertain, and doubtless varies greatly; but I believe that the man who, in trying to save the child, breaks the most necks, saves the most children, and I respect him accordingly. Such labors are always very dangerous to the child; the percentage of deaths is a very large one. I look on a child in breech presentation as a child drowning, to whom help must be sped—help at all hazards. It is emphatically a case of "neck or nothing," and we must not sacrifice the life of the child to any sentimental considerations about breaking its neck.

One point that, perhaps, does not come strictly under injuries to the fœtus, but may be considered here, since it causes the death of the fœtus, is pressure on the cord, prolapsed or wound round the neck, by one of the blades of the forceps, and especially by the occipital one, when the blades are not applied exactly to the sides of the head. I am sure this has occurred at my hands. An annoyance in cases of face presentation is the subsequent unnatural position of the child, which for days will lie with its head greatly extended, though it ultimately takes the natural position.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 3, 1887.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

DR. JOSEPH D. BRYANT read a paper on

HOW CAN THE PROFESSION AID THE BOARD OF HEALTH?

As to the relations which should exist between the medical profession and the Health Department, he said that there ought to be complete harmony in all matters pertaining to the public health. In the past this had by no means always been the case, and the two bodies had for the most part been much greater strangers to each other than should have been the case. He believed, however, that each should labor with common purposes, the prolongation of human life and the alleviation of physical suffering. It was the province of the Board of Health to deal more particularly with the prevention of disease, and of the medical profession with its treatment; but the preventive measures of the Board ought, of course, to receive the active and cordial co-operation of the profession.

All the medical sanitary inspectors are now detailed to the department of contagious diseases, and it is their duty to visit at once the locality of any case of contagious disease reported to the Board, and see that

proper measures for isolation, disinfection, etc., are promptly and thoroughly carried out. When, in any instance, it is found that suitable medical treatment cannot be pursued, or that isolation of the patient cannot be secured, they advise that the case be removed to the hospital.

In the department of contagious diseases are included the bureaus of vaccination and contagious diseases in animals, and employed in the latter are expert diagnosticians in this special field. Convenient and comfortable means are provided for the transfer of patients to the hospitals of the Board, and the admirably constructed Willard Parker Hospital at the foot of East Sixteenth Street, is fitted up with all the modern appliances for the successful treatment of disease. It has accommodations for seventy-five or one hundred cases of diphtheria and scarlet fever, and efficient house-physicians and an excellent medical board. The reception hospital is also under the supervision of the same medical board. On North Brother's Island are the fine new smallpox hospital and five pavilions, each with accommodations for twenty-five or thirty patients, for contagious diseases other than smallpox. On this island there is also considerable unoccupied space on which temporary structures can be erected in case of emergency. Every provision is thus made for the comfort and welfare of patients suffering from every variety of contagious disease.

The Board is at this time paying special attention to the matter of contagious disease, and the urgent need of this is sufficiently attested by the fact that from the 1st of January to the 30th of September there were no less than 1575 deaths from diphtheria reported in the city. There is entirely too much indifference on the part of the public to such affections as diphtheria; while a single case of a disease like cholera, the prevalence of which would seriously interfere with the business interests of the community, would at once cause profound excitement and receive the greatest possible attention. The Board has great odds to contend against, as it is estimated that from 15 to 25 per cent. of the cases of contagious diseases occurring in the city are never reported by the medical attendants in charge of them. It is estimated, also, that from 25 to 30 per cent. of the births are unreported.

He then proceeded to answer the question, How can the Profession aid the Board of Health? This can be done signally, he thought, in the following ways:

(1) By reporting at once all varieties of nuisances dangerous to life and health.

(2) By promptly reporting all forms of contagious disease. In this way many valuable lives could be saved and epidemics could be averted.

(3) By enforcing strict isolation and employing proper disinfectant and antiseptic measures in cases of contagious diseases.

(4) By reporting all cases in which isolation cannot be secured or proper medical treatment carried out.

(5) By visiting the Willard Parker Hospital, and thus being able to speak from personal observation of the advantages which it affords.

(6) By being careful not to send patients with contagious diseases to the dispensaries.

(7) By heartily coöperating with the medical inspec-

tors of the Board of Health in any case in which the latter are met with.

(8) By reporting all food or drink adulterations coming under notice.

(9) By reporting any instance observed of decaying fruit or other kind of unwholesome food offered for sale.

(10) By reporting all defects in plumbing, light, and ventilation observed in houses visited.

(11) By paying special attention to the sanitary condition of the homes of patients.

(12) By promptly reporting all births. This is of special service in securing the more general vaccination of infants.

DR. E. G. JANEWAY said that the suggestions made by Dr. Bryant covered most of the matters in which the profession could be of service to the Board of Health. The importance of reporting all cases of contagious diseases is evident to all, and the statistics of disease can never be made accurate until every physician is willing to report every case he meets with. He has known the recurrence of smallpox in New York to be more than once due to unreported cases of the affection. The benefit of reporting all cases of typhoid fever, for instance, has been repeatedly shown in England in enabling the authorities to trace the origin of the trouble to contaminated milk. The relation of contagious diseases to the public schools is a matter of vital importance, and it is absolutely essential that the school officers should be promptly informed of the existence of a contagious disease in any family a member of which is a scholar.

It is also highly desirable that physicians should report any cases of *suspected* contagious disease coming under their observation. Public opinion on sanitary matters is moulded by the medical profession, and it should be the aim of the latter to inspire the public with confidence in the Board of Health. Otherwise the influence and efficiency of the Board will be seriously impaired. The good work done by the bureau of vaccination has undoubtedly been the means of successfully controlling smallpox in the city during the last few years, and it is essential that this should be continued in the future, and that even more vaccinations should be made than in the past. When, as is occasionally the case, unfavorable circumstances attend vaccination, it is not unfrequent to have physicians intimate (and usually without adequate reason), either that the virus used is bad, or that it is the vehicle for the transmission of syphilis. Such slighting remarks do a great deal of harm, and he has known them to be the means of preventing a large number of vaccinations, as reports of this kind are apt to spread through tenement-houses.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, October 28, 1887.

THE PRESIDENT, JAMES PERRIGO, M.D., IN THE CHAIR.

SARCOMA OF THE FEMUR.

DR. BELL exhibited a patient whose right thigh he had amputated three weeks before for sarcoma of the lower third of the femur. The wound united by first intention throughout, and the patient was now well.

The wound healed under two dressings; bone drains were used. The following is the history of the case:

J. W., æt. eighteen, was admitted into the Montreal General Hospital, September 30, 1887, suffering from a large tumor involving and completely surrounding the lower third of the right femur. The tumor began as a small, movable, painless nodule on the anterior surface of the bone immediately above the knee-joint. It grew rapidly and soon completely encircled the bone. He walked about as usual until the end of June, when he began to suffer acute pain in the swelling. In August he was admitted into hospital, when the tumor was diagnosed as a periosteal sarcoma, and amputation was advised. His friends would not consent to any operative measures, and he left the hospital. He returned again on the 30th of September in a very grave condition. The tumor had increased very much in size and the patient was greatly emaciated; his pulse was constantly as high as 120-140, and his temperature ranged from 101°-103° F. The surface of the tumor was red and inflamed, and the leg below very œdematous. On October 3d, amputation was performed by the circular method through the upper third of the thigh. The recovery of the patient was rapid and particularly satisfactory. The stump was dressed for the first time on the eighth day. The temperature never rose above 98.8°; and on the 27th of October (twenty-four days after the operation) he was discharged with a perfectly sound stump. An examination of the tumor showed that it was a round-celled sarcoma occupying the lower third of the femur, but not extending into the interior of the bone. The synovial pouch beneath the quadriceps extensor muscle was filled with pus. The epiphysis separated easily from the shaft, and an inflammatory condition was found in the space between. Dr. Bell regarded this case as a fair sample of the results obtained by dry dressing and bone drainage.

DR. RODDICK congratulated Dr. Bell on the good result of the case. In such cases he preferred removing the whole bone, as then there is less chance of recurrence. With regard to the use of bone drains, he had some years ago used them extensively, but had given them up. Recently he had tried them again, but he found that they absorbed too rapidly, and that, although the drain was absorbed and the wound closed up, still there was often a collection of fluid left behind, which had to be let out.

DR. SHEPHERD had also, several years ago, used bone drains, but had abandoned them because of their uncertainty, some absorbing too rapidly and others not at all. He preferred rubber drains. His plan was to change the dressing twenty-four hours after operation, remove and shorten tubes to less than half an inch, and then not make the second dressing for a week or ten days, according as the case progressed. The reason he examines the wound and removes the tube at the end of twenty-four hours, is because the oozing from the wound is greatest during the first day, and also because the tube not infrequently becomes plugged with blood-clots, and this, of course, renders it useless. He had had remarkably good results in his amputations by this method, and mentioned a case of amputation of the thigh performed in a very old man, for senile gangrene, which healed by two dressings in three weeks. Neuber, who introduced bone drains, now never employs any

drain at all, but stuffs the wound with iodoform gauze for two or three days, and then makes use of secondary suture. His results, according to his published cases, were excellent.

DR. ARMSTRONG inquired whether any of the surgeons had used Lewis's solid rubber drains. They consist of a number of pieces of solid rubber rods placed like cat-gut in the wound and are better than hollow tubes as they never get plugged with blood-clot.

OSTEOTOMY OF THE TIBIÆ.

DR. BELL also exhibited a patient, æt. three years, on whom he had performed osteotomy of the tibiæ for incurving due to rickets. He had performed MacEwen's operation with most satisfactory results. There was only one dressing applied.

DR. RODDICK said that three years was too young to perform this operation and that he himself never operated in such cases under nine years, but used apparatus to correct the deformity. Apparatus is of little use for the cure of knock-knee, but answers well for bow-legs. He thought that subcutaneous fracture is preferable to MacEwen's operation in bow-legs and he had had excellent results from this method of treatment.

DR. GURD said that in cases of bow-legs of very young children the deformity was frequently corrected by improved hygienic conditions and good food.

STRONGYLUS FILARIA.

DR. JOHNSTON exhibited a microscopic section through the lung of a sheep in a case of broncho-pneumonia where great numbers of the strongylus filaria were found in the alveoli, which were filled with exudate. There were also severe bronchitis and peribronchitis of the smaller tubes. The adult worms were not found within the bronchi, having probably been coughed up. The embryos were not able to develop in the lung.

RINGWORM OF THE NAIL.

DR. JOHNSTON also exhibited a microscopic section of a nail showing parasitic onychia. The specimen was sent him by Dr. Bell. The chains of trichophyton were seen in moderate numbers on the deeper layers of the nail and between the nail and its bed. A mass of dry porous tissue over the bed of the nail was free from the parasite.

DR. BELL said the specimen was taken from the thumb nail of a girl æt. twenty years. She had accidentally cut the nail about the middle a year ago, a small brown spot immediately commenced to grow at this point and when he saw her first the nail was raised from its bed to the extent of half an inch by a hard, dry cancellated structure resembling cancellated bone. There was no ringworm in any part of her body nor had she been exposed to contagion from any known source.

DR. MCCONNELL read a paper on

ACETANILID.

After describing the history and actions of this drug, which is best known by the name of antifebrin, he detailed his experience of the remedy derived from its administration in twenty cases. In every case it had been given with benefit; he had given it in typhoid fever, pneumonia, puerperal septicæmia, and erysipelas.

In typhoid fever it is most useful in relieving the intense headache of the early stage of that disease. The temperature was reduced in two to four hours 5° or 6°. In all his cases it began to fall within fifteen minutes after the administration of the drug. He gave it in doses of from six to fifteen grains. Three doses in twelve hours were sufficient. He found that it stimulated the vasomotor system, relieved pain of a neuralgic character, promoted sleep, and diminished the rate of the pulse.

DR. PROUDFOOT said antifebrin is very useful in reducing the inflammation and relieving pain in cases of iritis.

DR. STEWART had only used antifebrin in two cases of locomotor ataxy for the relief of the lightning pain with excellent effect. He thought that it is not yet decided whether it is useful in fever; it certainly has the effect of destroying the oxyhæmoglobin and thus reduces the patient's resisting power.

DR. REED had tried the drug for the relief of neuralgic pain and had found not the slightest result; he thought that the drug had had its day.

DR. MCCONNELL, in reply, said that the destruction of oxyhæmoglobin only takes place when the drug is given in poisonous doses.

Several members stated that they had found the drug of no use at all in erysipelas.

NEWS ITEMS.

AN AUTHORITATIVE SOCIETY.—In an editorial in the *Maryland Medical Journal* of November 5, 1887, a reference made by Dr. W. C. Van Bibber, in a recent address before the Baltimore Academy of Medicine, to the College of Physicians of Philadelphia, is commented upon as follows:

Dr. Van Bibber has referred to the value of an authoritative society to the profession and to the State. Dr. Van Bibber has happily selected as his model the College of Physicians of Philadelphia, which combines in its purposes and in its work all that is useful in a scientific medical organization. Were there in all our large cities medical organizations working so harmoniously and efficiently in the promotion of the higher aims of medicine and in guarding the interests of society as the College of Physicians, it would be a cause for professional congratulation among a large class of physicians who never fail to endorse methods or purposes which advance the cause of human good. We have before us at this time another illustration of the high aim of the College of Physicians in the shape of a report of a Committee appointed by the College on October 5, 1887, to investigate the efficiency of our quarantine arrangements for the exclusion of cholera and other epidemic diseases. The work performed by the Committee of the College of Physicians in the preparation of this report has been both laborious and painstaking, and the conclusions reached, if properly considered and carefully enforced, cannot fail to work a far-reaching public benefaction.

The thorough investigation of this important subject at this time by the College of Physicians assumes a commanding position and enforces upon professional attention the importance of a coöperation among the medical societies of the United States, looking to the early

adoption of a uniform and efficient quarantine of all exposed ports. In fact, in a resolution offered by the Committee of the College, the authority to issue an address to the medical societies of the country, and seek their coöperation in this respect, was adopted. The initiative taken by the College of Physicians in this matter was not only timely, but in the extreme humane. It has been shown that our Atlantic ports are totally unprovided for the safe and humane treatment of cholera-infected emigrants, and that unless something be done to improve our quarantine regulations, great suffering and injustice may be imposed upon emigrants arriving from cholera-infected countries.

The great authority of the College of Physicians leading in this matter cannot result in other than good to the people of our country, and to those who seek an asylum on our shores.

CORROSIVE SUBLIMATE AND QUININE.—Powell calls attention to the fact, not generally known, that when moderately concentrated solutions of corrosive sublimate and a quinine salt are mixed, a precipitate is thrown down, immediately or after some time, consisting of a double chloride of mercury with the alkaloid. Prescribers and dispensers should make a note of the fact.—*Pharmaceutical Journal*.

TYPHOID FEVER CASES IN LAPEER CITY, WITH SOURCES OF CONTAGION.—Dr. H. McCall has forwarded the following account of a small typhoid outbreak to the Michigan State Board of Health:

About September 1, 1887, Myron Gardner, railroad employé, came from the South, sick with fever, to his father's home. His case was supposed to be malarial. No care was exercised with stools in the way of disinfection, but they were thrown into a privy vault in the rear of the house, and in close proximity to the well. Wash-water was thrown on the surface of the ground, which was very dry at the time. About the 7th or 8th of September, a copious rain fell and soaked the sandy soil; and on the 14th, William Gardner and wife, father and mother of Myron, and E. D. Gardner, a brother, were attacked with fever. On this day I got home from Washington, and found four of them down with a severe type of typhoid fever; and in two weeks Myron's wife and child were attacked; also a child, across the street at Terry's, who had used water from the Gardner well. About the same time, three cases occurred among those in the adjacent Clifford house, south of Gardner's, who also used water from the Gardner well. None of the people from either of these houses were in the Gardner house. In the Walker house, still further south, one case has occurred; and I was at a loss to account for this case, till a few days ago, when the young man said that at the mill where he was working they had used water from the Gardner well for a few days, owing to disarrangement of the pump at the mill. Two others of the mill hands, Anderson and Lester, who used the same water, were attacked about the same time. Lester is now convalescent; Anderson is dead, as also a child at Terry's. When I took charge of the cases I ordered the discontinuance of water from the Gardner well, and the disinfection of the stools; and no new cases are now reported. People who assisted in taking care of the Gardner and other families, and who used

water from other sources, have not been attacked. Clearly Myron Gardner brought the fever home, the well became infected after the first rain from slops and privy drainage and the other cases got their seed from the water.

THE CHOLERA IMPORTATION.—The indignation felt by the inland cities at the laxity of the New York quarantine finds favorable expression in the *Sanitary News* of October 29, 1887, as follows:

The fact is that the general government should establish and maintain a quarantine system at New York. It should begin at once by prohibiting intercourse with Italian infected ports. It should assume the care of this national question. The Western health boards should call extra sessions, pass resolutions asking the President to put in motion his emergency fund, and begin to take active steps against an active enemy. We, in Chicago, do not fear the fourteen Italians from Palermo, but the health commissioner was busy Thursday morning in hunting them up and endeavoring to get their infected luggage. The period of incubation was twice passed on these immigrants before the notice was received. Their luggage may yet be gathered and disinfected, but as this thing is liable to be kept up as often as the Fabre line can get a vessel into the port of New York, Dr. Rauch should put his railway inspection into action again, and endeavor to prevent the importation of the disease into this state.

CHOLERA IN INDIA.—Cholera has prevailed very extensively throughout India during the present hot season. It has spread northward, westward, and southward. The Northwestern Provinces and Punjab have been severely visited. The disease has broken out in Peshawur, and caused great loss of life. Several outbreaks have been reported from Central India, and seventeen districts of Bombay Presidency have been visited. The town of Bombay has suffered to a slight extent. The disease has prevailed severely in Burma and broken out in Singapore. It has also been reported from Kabul. Beyond India, the disease lingers in some parts of Italy, and a few cases appear to have occurred in Malta. This is, therefore, emphatically a year of active epidemic movement so far as cholera is concerned.—*Indian Medical Gazette*, September, 1887.

PROFESSOR BILLROTH.—The numerous friends of Professor Billroth all over the world will be pleased to learn that his health is thoroughly restored, and that he has resumed his clinics at the General Hospital, Vienna. On the occasion of his first lecture he received a great ovation. The theatre was crowded with professors and students for a long time before the lecture hour had arrived, and the entrance of Professor Billroth was welcomed with loud and long-continued applause. Dr. Preis then advanced and tendered in the name of his colleagues and the pupils a hearty welcome to the Professor, with an expression of joy at his recovery from so severe and dangerous an illness. In reply, Professor Billroth made some feeling remarks, recalling the time when, twenty years ago, he first taught in that place, with colleagues such as Rokitansky, Oppolzer, Skoda, Demme, Dittel, Hebra, and others, who had all since passed away. He warmly thanked those present for their kindness during his illness, and their recep-

tion of him that day. He had not expected to be there again, but he had been snatched from death by the self-sacrifice and devotion of his colleagues. He spoke of the kindness and love which had been bestowed upon him on all sides, and said that he would devote all his strength to the welfare of mankind, the glory of the old Vienna University, and the prosperity of Austria. He then proceeded to speak of the life work of von Langenbeck, and suggested that, in respect to his memory, the meeting should be closed. After this, Professor Billroth took them over his wards, and operated on a case of double harelip.—*Lancet*, October 22, 1887.

AN INTERNATIONAL DICTIONARY OF LIVING WRITERS.—The contemplated publication during the coming year of a work under the above title is announced by M. De Gubernatis, of Florence. It will contain an account not only of the authors of books, but of contributions to journals of various kinds, the aim being to describe the *personnel* of the literary men of to-day.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE, FOR THE WEEK ENDING NOVEMBER 5, 1887.

FESSENDEN, C. S. D., *Surgeon*.—Detailed as Chairman of the Board for the Physical Examination of Officers of the Revenue Marine Service, November 1, 1887.

MEAD, F. W., *Passed Assistant Surgeon*.—Detailed as the Recorder of the Board for the Physical Examination of Officers of the Revenue Marine Service, November 1, 1887.

BEVAN, A. D., *Passed Assistant Surgeon*.—Relieved from duty at Portland, Oregon; ordered to the Marine Hospital, New York, November 2, 1887.

CARRINGTON, P. M., *Assistant Surgeon*.—Relieved from duty on the Revenue Steamer "Rush;" ordered to the Marine Hospital, San Francisco, California, November 2, 1887.

PERRY, T. B., *Assistant Surgeon*.—Relieved from duty at the Marine Hospital, San Francisco, California; ordered to assume charge of service at Portland, Oregon, November 2, 1887.

GOODWIN, H. T., *Assistant Surgeon*.—Relieved from duty at Norfolk, Virginia; ordered to the Marine Hospital, New Orleans, Louisiana, November 5, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 5, 1887.

FITZSIMMONS, P., *Surgeon*.—Ordered to the U. S. Steamer "Marion."

ATLEE, L. W., *Assistant Surgeon*.—Ordered to the U. S. Steamer "Marion."

BATES, N. L., *Medical Inspector*.—Ordered to the U. S. Steamer "Trenton."

BEYER, HENRY G., *Passed Assistant Surgeon*.—Ordered to the U. S. Steamer "Trenton."

WHITE, STEPHEN S., *Assistant Surgeon*.—Ordered to the U. S. Steamer "Trenton."

RIXEY, P. M., *Passed Assistant Surgeon*.—Detached from the U. S. Steamer "Trenton," and wait orders.

ASHBRIDGE, RICHARD, *Passed Assistant Surgeon*.—Ordered to the U. S. Receiving Ship "St. Louis."

THE MEDICAL NEWS will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 1004 Walnut Street, Philadelphia.